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## EXECUTIVE SUMMARY

# DOMTAR QUARRY GROUND WATER SURVEY
# THIRD ANNUAL REPORT, 1983-84

A. Golomb

Since December, 1981, fly ash from Lakeview TGS has been used as landfill at Domtar Quarry, Mississauga, in accordance with a Provisional Certificate of Approval issued by the Ontario Ministry of the Environment. A condition of the Certificate is that the quality of local ground water be monitored at regular intervals for environmental protection. During 1984, ground water quality data obtained from boreholes in and around the Domtar Quarry ash disposal site have been obtained and interpreted. Shifts were observed in major ion chemistry at one up-gradient well, one down-gradient well, and one within Domtar property. Apparently none of these is fly ash-related, and no adverse effect on ground water quality has occurred since ash placement commenced. Piezometric head measurements show little change in the water table level. Monitoring continues.

| job | file | date | report no. |
|---|---|---|---|
| 740631-129-892 | 837.71 | December 20, 1984 | 84-452-K |

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To Mr. D. Erwin
Manager, Procurement - General Products
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Attn: Mr. J.H.P. Buckingham
Senior Supervisor
Ash Management

# DOMTAR QUARRY GROUND WATER SURVEY THIRD ANNUAL REPORT, 1983-84

A. Gulamb

Ground water quality data obtained from boreholes in and around the Domtar Quarry ash disposal site, Mississauga, are reported. Shifts were observed in major ion chemistry at one up-gradient well, one down-gradient well, and one within Domtar property. Apparently none of these is fly ash-related, and no adverse effect on ground water quality has occurred since placement of ash commenced in December, 1981. Piezometric head measurements show little change in the water table level. Monitoring continues.

Since December 1981, fly ash from Lakeview TGS has been used as a landfill material at Domtar Quarry, Mississauga, in accordance with Provisional Certificate No A220113, issued by the Ontario Ministry of the Environment. The MOE have authorized placement of fly ash at the site provided that a regular sampling and testing programme is undertaken to monitor ground water quality in the vicinity of the site. Up-gradient wells are monitored annually, the on-site wells four times annually, and the down-gradient wells three times annually. A piezometric head survey is also carried out six times annually.

This report gives analytical details for the ground water survey to September 1984. Piezometric measurements are also reported. All previous ground water survey data/1/ are included to facilitate comparison. Borehole locations are shown in Figure 1, Map 1, "Domtar Quarry: Hydrogeological Study - Supplemental",


| job | file | date | report no. |
|---|---|---|---|
| 740631-129-892 | 837.71 | December 20, 1984 | 84-452-K |

by Morrison Beatty, Consulting Engineers, Mississauga, issued April 3, 1981. The Sump location corresponds to that of the old Quarry Pond.

## PIEZOMETER MAINTENANCE

Details of piezometer construction and installation in and around the Domtar site have been previously reported/2/.

Piezometer maintenance, and replacement where necessary, was carried out in cooperation with Civil Research Department, Soils Section. The down-gradient piezometers Hs, Hi, Is and Ii, obliterated by local construction in 1982, were replaced by Js and Jd, located on a traffic island on Privet Crescent, ie in the same ground water flow path. (Piezometers Fs and Fd were temporarily used as sampling points pending installation of Js and Jd; Fs and Fd were subsequently lost to us during 1984 due to local construction). Upstream piezometers 5A(s) and 5B(d), which had been destroyed by a fire in the immediate area, were restored in 1983.

## GROUND WATER MONITORING

Piezometric head readings are given in Table I. A 'Solinst' sonic water level detector has been used for water level measurements since 1982. For the survey to date, there has evidently been very little change in the water table level.

The methodology of bailing and sampling ground water from the piezometers has been previously described/2/. Tables II-XX give detailed chemical analysis of ground water samples taken in and around the site, including earlier analytical data/1/ to facilitate comparison.

For each of the sampling locations, ionic balances were calculated for major cations and anions in solution. These are given in Tables XXI to XXXIX. Piper diagrams were constructed for each location (Figures 2 to 20) to illustrate water quality and compare the major ion chemistry before and after commencement of ash placement at the site. From the Piper diagrams it is apparent that very few changes in ground water major ion chemistry have taken place since ash placement began. Alkali metal cations and strong acid anions remain dominant in water from most locations sampled to date (Table XL).

For the up-gradient well 2A, the shift in major ion chemistry noted during 1983/1/ persists into 1984. The down-gradient well Ei has undergone temporal shifts in major ion chemistry that probably reflect contamination by road salt used in winter in the residential area south of Dundas Street. (These shifts,

each of which occurred in spring, coincided with significant increases in sodium and chloride ion concentrations.) There was no apparent change in major ion chemistry for the wells within Domtar property, with one exception: Borehole 8 underwent a sudden (~6-fold) dilution noted in June, 1984, changing anomalously from the region of dominance of alkali metal cations and strong acid anions into the region of dominance of alkaline earth metals and weak acid anions. Sodium and chloride concentrations sharply declined. Boron and strontium (regarded as 'indicator' components of fly ash leachate) both decreased in concentration. Water quality trends in Borehole 8 will be followed closely in the course of future monitoring.

Concentrations in Borehole 3A remain high, but the other two boreholes in the same piezometer nest have undergone varying degrees of dilution. The massive dilution first observed in March, 1983, in Borehole 3C has persisted steadily throughout 1984. On the other hand, Borehole 3B underwent a significant (~9-fold) dilution, observed in June 1984, that returned to previous levels by September, 1984. It is noteworthy here that a massive (~20-fold) dilution of ground water was observed to have occurred in the sump of Booth Quarry fly ash disposal site in Etobicoke/3/. This has persisted from mid-1982 to the present time; however, there is no apparent correlation between the two sets of observations.

Examination of the data revealed no substantial change in any of the minor/trace components of ground water in the vicinity of the ash disposal site.

## CONCLUSONS

From available data based on sampling and chemical analysis of ground water taken from nineteen boreholes in and around Domtar Quarry during the period to September 1984, no adverse effect on ground water quality appears to have taken place due to fly ash placement. At one up-gradient location (Borehole 2A) a shift in major ion chemistry first observed in 1983 persists into 1984. At one down-gradient location (Borehole Ei) temporal changes in major ion chemistry each concided with significant increases in sodium and chloride; these changes took place in spring, when contamination resulting from winter road-salting activities in the subdivision might be expected. Within Domtar property, Borehole 8 anomalously underwent a ~6-fold dilution that was evidently not fly ash-related, while at Borehole 3B a temporary (anomalous) dilution observed in June, 1984, returned to former concentrations by September, 1984. A massive dilution first observed in Borehole 3C in 1983 has persisted steadily throughout 1984.

The water table level remains nearly constant. The ground water monitoring programme continues.

Approved by:

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Submitted by:

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Engineer
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Research Section

Reviewed by:

D.J.R. Dodd
Supervising Engineer
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AG:lg

**REFERENCES**


1. Golomb, A. Research Division Report No 83-500-K.
2. Golomb, A. Research Division Report No 82-375-K.
3. Golomb, A. Research Division Report No 83-332-K.

TABLE I



DONTAS QUARRY GROUND WATER LEVELS, APRIL 1980 TO SEPTEMBER 1984

| LOCATION | DATE Elevation (m) of Top of Stand Pipe | 800408 | 800409 | 800410 | 800415 | 800512 | 801217 | 801222 | 801229 | 810204 | 810205 | 810218 | 810219 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 138.4 | - | 122.90 | - | - | - | 123.27 | 123.86 | 124.13 | - | - | - | - |
| 2A(s) | 139.3 | - | - | - | 135.70 | - | 132.95 | 132.87 | 132.86 | - | - | - | - |
| 2B(d) | 139.2 | 126.20 | 124.79 | - | 126.40 | - | 128.30 | 129.52 | 129.78 | - | - | - | - |
| 3A(i) | 121.2 | 109.60 | 109.95 | - | 109.80 | - | 109.38 | 109.40 | 109.46 | - | - | - | 109.54 |
| 3B(s) | 120.8 | 113.00 | 111.55 | - | 113.40 | - | 113.08 | 113.23 | 113.10 | - | - | - | 113.08 |
| 3C(d) | 121.2 | - | - | 106.85 | 108.90 | 107.95 | 108.22 | 108.25 | 108.25 | - | - | - | 108.55 |
| 4 | 133.2 | - | 118.05 | - | 123.50 | - | - | - | - | - | - | - | - |
| 5d | 141.8 | - | 132.40 | - | - | - | 132.30 | 132.28 | 132.29 | - | - | - | - |
| 5s | 141.8 | - | - | - | 136.40 | - | 136.14 | 136.48 | 136.43 | - | - | - | - |
| 6 | 142.6 | 136.05 | 135.85 | - | - | - | 135.52 | 135.41 | 135.40 | - | - | - | - |
| 7 | 146.3 | 142.80 | 143.26 | - | - | - | 142.71 | 142.50 | 142.41 | - | - | - | - |
| 8 | 116.5 | 110.00 | 109.25 | - | - | - | 109.92 | 109.87 | 109.81 | - | - | - | - |
| 9 | 128.7 | - | - | - | - | - | - | - | - | - | - | - | - |
| 10A(d) | 119.5 | - | - | - | - | - | 116.07 | 111.06 | 111.50 | - | - | - | - |
| 10B(s) | 119.4 | - | - | - | 117.60 | - | 117.01 | 116.90 | 116.75 | - | - | - | - |
| A | 130.4 | - | - | - | - | - | - | - | - | - | - | 121.05 | 120.29 |
| B: | 122.0 | - | - | - | - | - | - | - | - | - | - | 118.45 | DRY |
| Bs | 122.4 | - | - | - | - | - | - | - | - | - | - | 121.90 | 121.58 |
| Cd | 119.0 | - | - | - | - | - | - | - | - | - | - | 111.50 | 110.85 |
| Cs | 119.0 | - | - | - | - | - | - | - | - | - | DRY | 116.20 | 116.10 |
| Dd | 117.5 | - | - | - | - | - | - | - | - | - | - | 110.25 | 109.67 |
| Ds | 117.5 | - | - | - | - | - | - | - | - | DRY | - | 114.70 | 114.55 |
| Ed | 111.3 | - | - | - | - | - | - | - | - | - | - | 107.30 | 106.08 |
| Ed-2 | 111.3 | - | - | - | - | - | - | - | - | - | - | - | - |
| Es | 111.3 | - | - | - | - | - | - | - | - | - | - | 106.50 | 106.38 |
| Fd | 108.0 | - | - | - | - | - | - | - | - | DRY | - | 108.40 | 108.40 |
| Fs | 108.0 | - | - | - | - | - | - | - | - | - | - | 103.15 | 102.60 |
| G | 116.1 | - | - | - | - | - | - | - | - | - | - | 99.60 | 100.37 |
| Hd | 114.1 | - | - | - | - | - | - | - | - | - | - | 110.50 | 112.86 |
| Hs | 114.1 | - | - | - | - | - | - | - | - | - | - | 108.85 | 106.45 |
| Id | 111.1 | - | - | - | - | - | - | - | - | - | - | 110.10 | 110.10 |
| Is | 110.9 | - | - | - | - | - | - | - | - | - | - | 106.45 | 104.63 |
| Jd | 109.8 | - | - | - | - | - | - | - | - | - | - | 108.25 | 108.05 |
| Js | 109.9 | - | - | - | - | - | - | - | - | - | - | - | - |
| Sump | 114.5 | - | - | - | - | - | - | - | - | - | - | - | - |

* Suffixes d, i, s indicate depth of piezometers, ie, deep, intermediate and shallow, respectively, for multilevel nests.

All level measurements are expressed in metres above geodetic datum.

TABLE 1 (Cont'd)



SUNCOR QUARRY GROUND WATER LEVELS, APRIL 1980 TO SEPTEMBER 1984

| DATE / LOCATION | Elevation (m) of Top of Stand Pipe | 810226 | 810320 | 810323 | 810324 | 810325 | 820531 | 820622 | 820920 | 821103 | 830208 | 830301 | 830526 | 830912 | 840108 | 840402 | 840608 | 840930 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 138.4 | - | - | - | - | - | 124.35 | 124.44 | 124.46 | 124.56 | 124.49 | 124.50 | 124.47 | 124.45 | 124.50 | 124.61 | 124.57 | 124.54 |
| 2A(s) | 139.3 | - | - | - | - | - | - | 132.43 | 132.89 | 132.89 | 132.91 | 130.31 | 130.40 | 135.73 | 130.30 | 130.40 | 137.98 | 132.79 |
| 2B(d) | 139.2 | - | - | - | - | - | - | 129.71 | 127.86 | 127.61 | 128.13 | 128.25 | 128.07 | 127.90 | 127.73 | 127.90 | 127.90 | 128.45 |
| 2B(s) | 120.8 | - | - | - | - | - | 109.49 | 109.47 | 109.17 | 109.61 | 109.55 | 109.42 | 109.40 | 109.20 | 109.63 | 109.84 | 109.50 | 109.13 |
| 3C(d) | 121.2 | - | - | - | - | - | 113.80 | 114.00 | 113.69 | 113.80 | 114.01 | 114.03 | 113.96 | 113.50 | 113.68 | 114.22 | 114.10 | 113.10 |
| 4 | 133.2 | - | - | - | - | - | 108.88 | 108.28 | 107.84 | 108.00 | 108.35 | 108.07 | 111.55 | 111.50 | 111.52 | 111.77 | 111.55 | 111.47 |
| 5d | 141.8 | - | - | - | - | - | - | - | - | - | - | 0 | - | - | - | - | - | - |
| 5s | 141.8 | - | - | - | - | - | - | N/A | - | 131.46 | 132.02 | 132.22 | 132.13 | 131.51 | 131.88 | 131.83 | 131.36 | 131.01 |
| 6 | 142.6 | - | - | - | - | - | - | | - | 136.55 | 136.65 | 136.80 | 136.82 | 136.18 | 136.05 | 141.11 | 140.15 | 136.03 |
| 7 | 146.3 | - | - | - | - | - | - | 135.63 | - | - | - | - | 135.85 | 135.17 | 135.25 | 135.77 | 135.55 | 135.12 |
| 8 | 116.5 | - | - | - | - | - | - | 142.95 | - | - | - | - | 143.40 | 142.39 | 142.75 | 143.41 | 143.17 | 142.41 |
| 9 | 128.7 | - | - | - | - | - | 108.88 | 110.00 | 109.81 | 109.87 | 110.08 | 110.05 | 110.07 | 109.70 | 109.86 | 110.09 | 110.08 | 110.25 |
| 10A(d) | 119.5 | - | - | - | - | - | - | - | 113.12 | 112.60 | 112.60 | 112.59 | 112.60 | 112.61 | NA | 122.25 | 121.80 | 121.64 |
| 10B(s) | 119.4 | - | - | - | - | - | 111.95 | 111.89 | 111.97 | 112.03 | 112.19 | 112.18 | 112.40 | 112.21 | NA | 112.48 | 112.22 | NA |
| A | 130.4 | - | - | - | - | - | 117.47 | 117.40 | 116.93 | 117.31 | 117.56 | 117.56 | 117.69 | 116.73 | NA | 117.45 | 117.28 | NA |
| Bd | 122.0 | - | - | - | - | 121.40 | 121.70 | 121.60 | 121.74 | - | 121.82 | 121.91 | 121.59 | 121.78 | 121.80 | 121.88 | 121.84 | 121.69 |
| Bs | 122.4 | - | - | - | - | 121.30 | - | N/A | Permanently damaged during local construction | | | | | | - | - | - | - |
| Cd | 119.0 | 110.72 | - | - | - | 121.90 | - | | | | | | | | - | - | - | - |
| Cs | 119.0 | 116.00 | - | - | - | 111.29 | - | 111.58 | 112.17 | 112.00 | 112.00 | 111.84 | 111.65 | 112.10 | 111.88 | 111.83 | 111.53 | 112.00 |
| Dd | 117.5 | - | - | - | - | 116.31 | - | 116.90 | 116.34 | 116.49 | 117.82 | 117.72 | 117.85 | 116.22 | 116.51 | 117.99 | 117.07 | 116.19 |
| Ds | 117.5 | - | - | - | - | 109.91 | 110.09 | 110.05 | 111.05 | - | 110.50 | 110.34 | 110.25 | 109.98 | NA | 110.20 | 110.13 | 110.05 |
| Ed | 111.3 | 106.06 | - | - | - | 114.92 | 116.12 | 115.77 | 115.46 | 115.80 | 116.20 | 116.18 | 116.08 | 115.20 | NA | 116.20 | 115.74 | 115.09 |
| Ed-2 | 111.3 | - | 104.68 | 105.78 | 100.32 | 105.94 | - | 105.87 | 105.97 | 105.87 | 105.93 | 106.11 | 106.13 | 105.98 | NA | 106.19 | 106.10 | 106.05 |
| Es | 111.3 | 106.37 | - | - | - | 100.26 | 105.98 | 105.83 | 105.86 | 105.89 | 105.93 | 105.88 | 105.90 | 105.76 | 105.85 | 105.96 | 105.87 | 105.82 |
| Fd | 111.4 | 108.40 | - | - | - | 106.44 | - | 106.41 | 106.36 | 106.45 | 106.30 | 106.61 | 106.60 | 106.38 | NA | 106.70 | 105.33 | 106.38 |
| Fs | 108.0 | - | - | - | - | 108.24 | - | 108.52 | 108.53 | 108.60 | 108.69 | 108.78 | 108.87 | 108.34 | 108.85 | 108.73 | 108.74 | 108.64 |
| G | 108.0 | - | - | - | - | 105.38 | 105.20 | 105.44 | 105.43 | 105.51 | 105.73 | 105.65 | 105.68 | 105.47 | NA | 105.60 | 105.46 | 105.43 |
| Hd | 116.1 | - | - | - | - | 100.31 | 100.34 | 100.31 | 105.05 | 105.59 | 105.19 | 105.13 | 105.24 | 105.10 | 108.59 | 105.21 | 105.15 | 105.12 |
| Hs | 114.1 | - | - | - | - | 109.91 | 110.25 | 111.90 | 109.97 | 109.95 | 110.1 | 110.1 | 110.16 | 109.87 | 105.47 | 110.10 | 110.06 | 109.36 |
| Id | 114.1 | - | - | - | - | 108.51 | - | | | | | | | | 105.10 | | | |
| Is | 111.1 | - | - | - | - | 110.10 | - | | | | | | | | 110.02 | | | |
| Jd | 110.9 | - | - | - | - | 105.88 | - | N/A | Destroyed during local construction | | | | | | | | | |
| Js | 109.8 | - | - | - | - | 108.16 | - | | | | | | | | | | | |
| Dump | 109.9 | - | - | - | - | - | - | - | - | 103.83 | 105.70 | 105.76 | 105.57 | 105.70 | NA | 106.15 | 105.31 | 105.54 |
| | 114.5 | - | - | - | - | - | - | - | - | 106.32 | 106.05 | 105.95 | 105.92 | 106.13 | NA | 106.00 | 105.87 | 105.86 |
| | | | | | | | 107.40 | 108.58 | 105.85 | 106.27 | 106.70 | 106.65 | 106.05 | N/A | 107.34 | 107.61 | 105.98 | 106.07 |

* Suffixes d, i, s indicate depth of piezometers, ie, deep, intermediate and shallow, respectively, for multilevel nests.

All level measurements are expressed in metres above geodetic datum.

## ANALYTICAL DATA*

(TABLES II - XX)

* Solute concentrations given throughout in milligrams per litre

# TABLE II

DOMTAR QUARRY GROUNDWATER

LOCATION : 02A

| TEST | SAMPLING DATE 800415 | 800512 | 801216 | 810302 | 820331 | 820629 | 820930 | 821203 | 830310 | 830608 |
|---|---|---|---|---|---|---|---|---|---|---|
| AG | -- | -- | -- | -- | -- | .00050 | -- | -- | -- | <.00020 |
| AL | -- | -- | -- | -- | -- | <.500 | -- | -- | -- | <.500 |
| ALKCO3 | -- | -- | -- | -- | -- | 26.0 | -- | -- | -- | <5.00 |
| ALKHCO3 | -- | -- | -- | -- | -- | 390. | -- | -- | -- | 330. |
| ALKOH | -- | -- | -- | -- | -- | <5.00 | -- | -- | -- | <5.00 |
| AS | -- | -- | -- | -- | -- | <.00100 | -- | -- | -- | <.00100 |
| B | -- | -- | -- | -- | -- | 1.70 | -- | -- | -- | .130 |
| BA | -- | -- | -- | -- | -- | .800 | -- | -- | -- | <5.00 |
| BE | -- | -- | -- | -- | -- | <.00020 | -- | -- | -- | <.00020 |
| BR | -- | -- | -- | -- | -- | <.500 | -- | -- | -- | .130 |
| CA | -- | -- | -- | -- | -- | 49.0 | -- | -- | -- | 98.0 |
| CD | -- | -- | -- | -- | -- | <.00010 | -- | -- | -- | <.00010 |
| CL | -- | -- | -- | -- | -- | 45.0 | -- | -- | -- | 17.0 |
| CO | -- | -- | -- | -- | -- | --- | -- | -- | -- | <.0500 |
| COND | -- | -- | -- | -- | -- | 111. | -- | -- | -- | 76.0 |
| CR | -- | -- | -- | -- | -- | <.100 | -- | -- | -- | <.0500 |
| CR(VI) | -- | -- | -- | -- | -- | <.0100 | -- | -- | -- | <.00600 |
| CU | -- | -- | -- | -- | -- | .00200 | -- | -- | -- | .00200 |
| FE | -- | -- | -- | -- | -- | <.100 | -- | -- | -- | <.0500 |
| HARD | -- | -- | -- | -- | -- | 196. | -- | -- | -- | 377. |
| HG | -- | -- | -- | -- | -- | <.00020 | -- | -- | -- | <.00020 |
| I | -- | -- | -- | -- | -- | <.500 | -- | -- | -- | <.0200 |
| K | -- | -- | -- | -- | -- | 15.0 | -- | -- | -- | 2.10 |
| MG | -- | -- | -- | -- | -- | 18.0 | -- | -- | -- | 32.0 |
| MN | -- | -- | -- | -- | -- | .230 | -- | -- | -- | <.0500 |
| MO | -- | -- | -- | -- | -- | <.500 | -- | -- | -- | <.500 |
| NA | -- | -- | -- | -- | -- | 194. | -- | -- | -- | 16.0 |
| NI | -- | -- | -- | -- | -- | <.00500 | -- | -- | -- | <.00500 |
| NO3 | -- | -- | -- | -- | -- | <.200 | -- | -- | -- | <.0100 |
| PB | -- | -- | -- | -- | -- | <.00200 | -- | -- | -- | <.00200 |
| PH | -- | -- | -- | -- | -- | 8.30 | -- | -- | -- | 7.80 |
| SE | -- | -- | -- | -- | -- | <.00100 | -- | -- | -- | <.00100 |
| SIO2 | -- | -- | -- | -- | -- | 10.0 | -- | -- | -- | 10.0 |
| SO4 | -- | -- | -- | -- | -- | 161. | -- | -- | -- | 85.0 |
| SR | -- | -- | -- | -- | -- | 2.00 | -- | -- | -- | .750 |
| TDS105 | -- | -- | -- | -- | -- | 680. | -- | -- | -- | 496. |
| TI | -- | -- | -- | -- | -- | <1.00 | -- | -- | -- | <1.00 |
| TOC | -- | -- | -- | -- | -- | --- | -- | -- | -- | 14.0 |
| U | -- | -- | -- | -- | -- | <.0100 | -- | -- | -- | <.0100 |
| V | -- | -- | -- | -- | -- | <.500 | -- | -- | -- | <.500 |
| ZN | -- | -- | -- | -- | -- | .120 | -- | -- | -- | <.0200 |

(CONT'D) DOMTAR QUARRY GROUNDWATER

LOCATION : 82A

| TEST | SAMPLING DATE 831012 | 831219 | 840406 | 840614 | 840930 |
|---|---|---|---|---|---|
| AG | -- | -- | -- | <.00020 | -- |
| AL | -- | -- | -- | <1.00 | -- |
| ALKCO3 | -- | -- | -- | <5.00 | -- |
| ALKHCO3 | -- | -- | -- | 324. | -- |
| ALKOH | -- | -- | -- | <5.00 | -- |
| AS | -- | -- | -- | <.00100 | -- |
| B | -- | -- | -- | .100 | -- |
| BA | -- | -- | -- | <2.00 | -- |
| BE | -- | -- | -- | -- | -- |
| BR | -- | -- | -- | .220 | -- |
| CA | -- | -- | -- | 97.2 | -- |
| CD | -- | -- | -- | <.00010 | -- |
| CL | -- | -- | -- | 11.5 | -- |
| CO | -- | -- | -- | -- | -- |
| COND | -- | -- | -- | 68.0 | -- |
| CR | -- | -- | -- | <.100 | -- |
| CR(VI) | -- | -- | -- | <.0100 | -- |
| CU | -- | -- | -- | .00400 | -- |
| FE | -- | -- | -- | <.0500 | -- |
| HARD | -- | -- | -- | 391. | -- |
| HG | -- | -- | -- | .00110 | -- |
| I | -- | -- | -- | .0400 | -- |
| K | -- | -- | -- | 1.55 | -- |
| MG | -- | -- | -- | 35.9 | -- |
| MN | -- | -- | -- | <.0500 | -- |
| MO | -- | -- | -- | <.500 | -- |
| NA | -- | -- | -- | 17.0 | -- |
| NI | -- | -- | -- | <.00500 | -- |
| NO3 | -- | -- | -- | .0700 | -- |
| PB | -- | -- | -- | <.00200 | -- |
| PH | -- | -- | -- | 7.88 | -- |
| SE | -- | -- | -- | <.00100 | -- |
| SIO2 | -- | -- | -- | 9.84 | -- |
| SO4 | -- | -- | -- | 75.0 | -- |
| SR | -- | -- | -- | .560 | -- |
| TDS105 | -- | -- | -- | 320. | -- |
| TI | -- | -- | -- | <1.00 | -- |
| TOC | -- | -- | -- | 16.0 | -- |
| U | -- | -- | -- | <.0100 | -- |
| V | -- | -- | -- | .0100 | -- |
| ZN | -- | -- | -- | <.0200 | -- |

# TABLE III

DOMTAR QUARRY GROUNDWATER

LOCATION : 82B

| TEST | SAMPLING DATE 800415 | 800512 | 801216 | 810302 | 820331 | 820629 | 820930 | 821203 | 830310 | 830608 |
|---|---|---|---|---|---|---|---|---|---|---|
| AG | -- | -- | -- | -- | -- | <.00050 | -- | -- | -- | <.00020 |
| AL | -- | -- | -- | -- | -- | <.500 | -- | -- | -- | <.500 |
| ALKCO3 | -- | -- | -- | -- | -- | <5.00 | -- | -- | -- | 33.0 |
| ALKHCO3 | -- | -- | -- | -- | -- | 168. | -- | -- | -- | 265. |
| ALKOH | -- | -- | -- | -- | -- | <5.00 | -- | -- | -- | <5.00 |
| AS | -- | -- | -- | -- | -- | <.00100 | -- | -- | -- | <.00100 |
| B | -- | -- | -- | -- | -- | 2.60 | -- | -- | -- | 2.21 |
| BA | -- | -- | -- | -- | -- | 10.0 | -- | -- | -- | <5.00 |
| BE | -- | -- | -- | -- | -- | <.00020 | -- | -- | -- | <.00020 |
| BR | -- | -- | -- | -- | -- | <1.00 | -- | -- | -- | 21.2 |
| CA | -- | -- | -- | -- | -- | 600. | -- | -- | -- | 240. |
| CD | -- | -- | -- | -- | -- | <.00010 | -- | -- | -- | <.00010 |
| CL | -- | -- | -- | -- | -- | 4600. | -- | -- | -- | 2010. |
| CO | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.0500 |
| COND | -- | -- | -- | -- | -- | 1360. | -- | -- | -- | 680. |
| CR | -- | -- | -- | -- | -- | <.100 | -- | -- | -- | <.0500 |
| CR(VI) | -- | -- | -- | -- | -- | <.0100 | -- | -- | -- | <.00600 |
| CU | -- | -- | -- | -- | -- | .00700 | -- | -- | -- | .00300 |
| FE | -- | -- | -- | -- | -- | .400 | -- | -- | -- | <.0500 |
| HARD | -- | -- | -- | -- | -- | 2150. | -- | -- | -- | 750. |
| HG | -- | -- | -- | -- | -- | <.00020 | -- | -- | -- | <.00020 |
| I | -- | -- | -- | -- | -- | <1.00 | -- | -- | -- | .230 |
| K | -- | -- | -- | -- | -- | 68.0 | -- | -- | -- | 39.0 |
| MG | -- | -- | -- | -- | -- | 156. | -- | -- | -- | 65.0 |
| MN | -- | -- | -- | -- | -- | .370 | -- | -- | -- | .140 |
| MO | -- | -- | -- | -- | -- | <.500 | -- | -- | -- | <.500 |
| NA | -- | -- | -- | -- | -- | 2000. | -- | -- | -- | 1060. |
| NI | -- | -- | -- | -- | -- | <.00500 | -- | -- | -- | .0200 |
| NO3 | -- | -- | -- | -- | -- | <1.00 | -- | -- | -- | 3.93 |
| PB | -- | -- | -- | -- | -- | .0100 | -- | -- | -- | <.00200 |
| PH | -- | -- | -- | -- | -- | 7.80 | -- | -- | -- | 7.90 |
| SE | -- | -- | -- | -- | -- | <.00100 | -- | -- | -- | <.00100 |
| SIO2 | -- | -- | -- | -- | -- | 13.0 | -- | -- | -- | 17.0 |
| SO4 | -- | -- | -- | -- | -- | 385. | -- | -- | -- | 280. |
| SR | -- | -- | -- | -- | -- | 4.00 | -- | -- | -- | 22.0 |
| TDS105 | -- | -- | -- | -- | -- | 9200. | -- | -- | -- | 4330. |
| TI | -- | -- | -- | -- | -- | <1.00 | -- | -- | -- | <1.00 |
| TOC | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19.0 |
| U | -- | -- | -- | -- | -- | <.300 | -- | -- | -- | .0700 |
| V | -- | -- | -- | -- | -- | <.500 | -- | -- | -- | <.500 |
| ZN | -- | -- | -- | -- | -- | <.0200 | -- | -- | -- | <.0200 |

(CONT'D) DOMTAR QUARRY GROUNDWATER

LOCATION : 02B

| TEST | SAMPLING DATE 831012 | 831219 | 840406 | 840614 | 840930 |
|---|---|---|---|---|---|
| AG | -- | -- | -- | <.00020 | -- |
| AL | -- | -- | -- | <1.00 | -- |
| ALKCO3 | -- | -- | -- | <5.00 | -- |
| ALKHCO3 | -- | -- | -- | 65.0 | -- |
| ALKOH | -- | -- | -- | <5.00 | -- |
| AS | -- | -- | -- | <.00100 | -- |
| B | -- | -- | -- | 3.00 | -- |
| BA | -- | -- | -- | <2.00 | -- |
| BE | -- | -- | -- | -- | -- |
| BR | -- | -- | -- | -- | -- |
| CA | -- | -- | -- | 551. | -- |
| CD | -- | -- | -- | .00020 | -- |
| CL | -- | -- | -- | 5300. | -- |
| CO | -- | -- | -- | -- | -- |
| COND | -- | -- | -- | 1580. | -- |
| CR | -- | -- | -- | <.100 | -- |
| CR(VI) | -- | -- | -- | <.0100 | -- |
| CU | -- | -- | -- | .0110 | -- |
| FE | -- | -- | -- | .260 | -- |
| HARD | -- | -- | -- | 1960. | -- |
| HG | -- | -- | -- | .00290 | -- |
| I | -- | -- | -- | -- | -- |
| K | -- | -- | -- | 68.4 | -- |
| MG | -- | -- | -- | 143. | -- |
| MN | -- | -- | -- | .440 | -- |
| MO | -- | -- | -- | <.500 | -- |
| NA | -- | -- | -- | 2520. | -- |
| NI | -- | -- | -- | <.00500 | -- |
| NO3 | -- | -- | -- | .220 | -- |
| PB | -- | -- | -- | <.00200 | -- |
| PH | -- | -- | -- | 7.50 | -- |
| SE | -- | -- | -- | <.00100 | -- |
| SIO2 | -- | -- | -- | 11.3 | -- |
| SO4 | -- | -- | -- | 580. | -- |
| SR | -- | -- | -- | 18.4 | -- |
| TDS105 | -- | -- | -- | 11200. | -- |
| TI | -- | -- | -- | <1.00 | -- |
| TOC | -- | -- | -- | 10.0 | -- |
| U | -- | -- | -- | -- | -- |
| V | -- | -- | -- | -- | -- |
| ZN | -- | -- | -- | .0300 | -- |

# TABLE IV

DOMTAR QUARRY GROUNDWATER

LOCATION : 03A

| TEST | SAMPLING DATE 800415 | 800512 | 801216 | 810302 | 820331 | 820629 | 820930 | 821203 | 830310 | 830608 |
|---|---|---|---|---|---|---|---|---|---|---|
| AG | -- | -- | .00300 | -- | <.00020 | -- | .00040 | -- | -- | .00500 |
| AL | -- | -- | <25.0 | -- | <.500 | -- | <.500 | -- | -- | <.500 |
| ALKCO3 | <5.00 | -- | <5.00 | -- | <5.00 | <5.00 | <5.00 | -- | <5.00 | <5.00 |
| ALKHCO3 | 42.4 | -- | 36.0 | -- | 34.0 | 26.0 | 33.0 | -- | 29.0 | 26.0 |
| ALKOH | <5.00 | -- | <5.00 | -- | <5.00 | <5.00 | <5.00 | -- | <5.00 | <5.00 |
| AS | -- | -- | .00200 | -- | <.00100 | -- | <.00200 | -- | -- | <.00100 |
| B | 2.40 | -- | 2.50 | -- | 2.70 | 2.80 | 2.50 | -- | 3.50 | 2.80 |
| BA | -- | -- | .140 | -- | 30.0 | -- | .500 | -- | -- | <5.00 |
| BE | -- | -- | -- | -- | -- | -- | <.00040 | -- | -- | .0100 |
| BR | -- | -- | -- | -- | -- | -- | -- | -- | -- | 178. |
| CA | 2750. | -- | 2850. | -- | 960. | 2800. | 2830. | -- | 2940. | 2900. |
| CD | <.00020 | -- | <.00020 | -- | <.00010 | -- | <.00010 | -- | -- | <.00010 |
| CL | 18300. | -- | 17000. | -- | 22000. | 19100. | 16000. | -- | 20100. | 21000. |
| CO | -- | -- | -- | -- | -- | -- | <.0500 | -- | -- | <.0500 |
| COND | 4480. | -- | 4700. | -- | 4820. | 4620. | 5000. | -- | 4800. | 4900. |
| CR | -- | -- | .00300 | -- | <.0500 | -- | <.100 | -- | -- | <.0500 |
| CR(VI) | -- | -- | -- | -- | <.00500 | -- | <.100 | -- | -- | <.00600 |
| CU | .0310 | -- | .0450 | -- | .0300 | -- | .00800 | -- | -- | .00800 |
| FE | .260 | -- | .0500 | -- | 1.00 | 3.00 | .500 | -- | 3.27 | 5.00 |
| HARD | 9130. | -- | 9560. | -- | 3140. | 9220. | 9370. | -- | 9690. | 9560. |
| HG | .00170 | -- | <.00040 | -- | .00040 | -- | .00050 | -- | -- | <.00020 |
| I | -- | -- | <5.00 | -- | <1.00 | -- | -- | -- | -- | 1.00 |
| K | 150. | -- | 140. | -- | 75.0 | 160. | 164. | -- | 160. | 159. |
| MG | 550. | -- | 549. | -- | 180. | 540. | 560. | -- | 570. | 560. |
| MN | -- | -- | <25.0 | -- | 4.50 | -- | 3.46 | -- | -- | 4.00 |
| MO | <.200 | -- | -- | -- | <.500 | <.500 | <.500 | -- | <.500 | <.500 |
| NA | 6250. | -- | 8120. | -- | 2820. | 8400. | 8300. | -- | 8000. | 8500. |
| NI | <.0500 | -- | .0140 | -- | <.00500 | -- | .00700 | -- | -- | <.0500 |
| NO3 | <1.30 | -- | -- | -- | <.0200 | .0100 | .0900 | -- | <6.00 | .220 |
| PB | <.100 | -- | <.00200 | -- | <.00200 | -- | <.00200 | -- | -- | <.00200 |
| PH | 7.40 | -- | 7.20 | -- | 6.70 | 7.20 | 7.10 | -- | 6.70 | 6.60 |
| SE | -- | -- | <.00150 | -- | <.00100 | -- | <.00200 | -- | -- | <.00100 |
| SIO2 | -- | -- | -- | -- | 5.40 | -- | 6.20 | -- | -- | 7.20 |
| SO4 | 444. | -- | 456. | -- | 470. | 720. | 580. | -- | 490. | 490. |
| SR | -- | -- | -- | -- | 68.0 | -- | 65.0 | -- | -- | 76.0 |
| TDS105 | -- | -- | -- | -- | 35800. | 36000. | 38100. | -- | 35000. | 37200. |
| TI | -- | -- | -- | -- | -- | -- | <1.00 | -- | -- | <1.00 |
| TOC | -- | -- | -- | -- | 7.20 | 2.00 | 5.00 | -- | -- | 4.00 |
| U | -- | -- | -- | -- | <1.00 | -- | <.00100 | -- | -- | .920 |
| V | -- | -- | <.500 | -- | <.200 | -- | <.500 | -- | -- | <.500 |
| ZN | .0800 | -- | <.0200 | -- | <.0200 | -- | .0600 | -- | -- | .200 |

(CONT'D) DOMTAR QUARRY GROUNDWATER

LOCATION : 03A

| TEST | 831012 | 831219 | 840406 | 840614 | 840930 |
|---|---|---|---|---|---|
| | SAMPLING DATE | | | | |
| AG | -- | -- | -- | <.00020 | -- |
| AL | -- | -- | -- | <1.00 | -- |
| ALKCO3 | <5.00 | -- | <5.00 | <5.00 | <5.00 |
| ALKHCO3 | 32.0 | -- | 33.0 | 32.0 | 34.0 |
| ALKOH | <5.00 | -- | <5.00 | <5.00 | <5.00 |
| AS | -- | -- | -- | <.00100 | -- |
| B | 3.32 | -- | 2.86 | 3.20 | 3.12 |
| BA | -- | -- | -- | <2.00 | -- |
| BE | -- | -- | -- | -- | -- |
| BR | -- | -- | -- | -- | -- |
| CA | 3000. | -- | 2920. | 2960. | 3440. |
| CD | -- | -- | -- | .00010 | -- |
| CL | 20000. | -- | 22000. | 21300. | 21100. |
| CO | -- | -- | -- | -- | -- |
| COHD | 4740. | -- | 4900. | 4420. | 4300. |
| CR | -- | -- | -- | <.100 | -- |
| CR(VI) | -- | -- | -- | <.0100 | -- |
| CU | -- | -- | -- | .0100 | -- |
| FE | 1.34 | -- | .560 | 1.36 | .450 |
| HARD | 9880. | -- | 11600. | 9660. | 10900. |
| HG | -- | -- | -- | .00430 | -- |
| I | -- | -- | -- | -- | -- |
| K | 170. | -- | 158. | 178. | 163. |
| MG | 580. | -- | 559. | 552. | 550. |
| MN | -- | -- | -- | 4.45 | -- |
| MO | <.500 | -- | <.500 | <.500 | <.500 |
| NA | 8500. | -- | 7990. | 12500. | 9550. |
| NI | -- | -- | -- | <.0100 | -- |
| NO3 | .160 | -- | -- | .170 | 0.22 |
| PB | -- | -- | -- | <.00200 | -- |
| PH | 7.10 | -- | 7.40 | 7.00 | 7.10 |
| SE | -- | -- | -- | <.00100 | -- |
| SIO2 | -- | -- | -- | 5.78 | -- |
| SO4 | 590. | -- | 500. | 513. | 495. |
| SR | -- | -- | -- | 69.0 | -- |
| TDS105 | 36200. | -- | 35100. | 37900. | 36000. |
| TI | -- | -- | -- | <1.00 | -- |
| TOC | -- | -- | -- | 8.00 | -- |
| U | -- | -- | -- | -- | -- |
| V | -- | -- | -- | -- | -- |
| ZN | -- | -- | -- | .0800 | -- |

# TABLE V

DOMTAR QUARRY GROUNDWATER

LOCATION : 03B

SAMPLING DATE

| TEST | 800415 | 800512 | 801216 | 810302 | 820331 | 820629 | 820930 | 821203 | 830310 | 830608 |
|---|---|---|---|---|---|---|---|---|---|---|
| AG | -- | -- | .00200 | -- | <.00020 | -- | .00360 | -- | -- | .00300 |
| AL | -- | -- | <5.00 | -- | <.500 | -- | <.500 | -- | -- | <.500 |
| ALKCO3 | <5.00 | -- | <5.00 | -- | 21.0 | <5.00 | <5.00 | -- | <5.00 | <5.00 |
| ALKHCO3 | 92.0 | -- | 62.0 | -- | 84.0 | 96.0 | 83.0 | -- | 95.0 | 91.0 |
| ALKOH | <5.00 | -- | <5.00 | -- | <5.00 | <5.00 | <5.00 | -- | <5.00 | <5.00 |
| AS | -- | -- | <.00200 | -- | <.00100 | -- | <.00200 | -- | -- | <.00100 |
| B | 2.10 | -- | 2.60 | -- | 3.10 | 2.80 | 2.80 | -- | 3.90 | 2.95 |
| BA | -- | -- | .150 | -- | 10.0 | -- | .200 | -- | -- | <5.00 |
| BE | -- | -- | -- | -- | -- | -- | <.00040 | -- | -- | <.00200 |
| BR | -- | -- | -- | -- | -- | -- | -- | -- | -- | 56.0 |
| CA | 1000. | -- | 1410. | -- | 965. | 866. | 1060. | -- | 960. | 960. |
| CD | <.0200 | -- | <.00020 | -- | <.00010 | -- | <.00010 | -- | -- | <.00010 |
| CL | 6400. | -- | 8400. | -- | 6700. | 6750. | 7100. | -- | 6200. | 6500. |
| CO | -- | -- | -- | -- | -- | -- | <.0500 | -- | -- | <.0500 |
| COND | 1800. | -- | 2400. | -- | 1850. | 1760. | 2000. | -- | 1780. | 1840. |
| CR | -- | -- | .00300 | -- | <.0500 | -- | <.100 | -- | -- | <.0500 |
| CR(VI) | -- | -- | -- | -- | <.00500 | -- | <.100 | -- | -- | <.00600 |
| CU | .00500 | -- | <.00100 | -- | .0150 | -- | .00800 | -- | -- | .0100 |
| FE | <.100 | -- | .0500 | -- | .390 | .700 | <1.00 | -- | .580 | <.0500 |
| HARD | 3320. | -- | 4680. | -- | 3150. | 2860. | 3430. | -- | 3100. | 3060. |
| HG | .00250 | -- | <.00040 | -- | .00020 | -- | <.00020 | -- | -- | <.00020 |
| I | -- | -- | <1.00 | -- | <1.00 | -- | -- | -- | -- | .420 |
| K | 75.0 | -- | 122. | -- | 70.0 | 76.0 | 84.0 | -- | 79.0 | 80.0 |
| MG | 280. | -- | 282. | -- | 180. | 170. | 190. | -- | 170. | 160. |
| MN | -- | -- | <5.00 | -- | 1.70 | -- | 1.46 | -- | -- | 1.40 |
| MO | <.200 | -- | -- | -- | <.500 | <.500 | <.500 | -- | <.500 | <.500 |
| NA | 3000. | -- | 4220. | -- | 2850. | 2760. | 3350. | -- | 2500. | 3400. |
| NI | <.0500 | -- | <.00300 | -- | <.00500 | -- | .00600 | -- | -- | .00500 |
| NO3 | <1.30 | -- | <.200 | -- | .700 | .0700 | .0500 | -- | <6.00 | .130 |
| PB | <.100 | -- | <.00200 | -- | .00600 | -- | <.00200 | -- | -- | <.00200 |
| PH | 7.70 | -- | 7.50 | -- | 7.60 | 7.80 | 7.60 | -- | 7.50 | 7.40 |
| SE | -- | -- | <.00800 | -- | <.00100 | -- | <.00200 | -- | -- | <.00100 |
| SIO2 | -- | -- | -- | -- | 4.50 | -- | 9.40 | -- | -- | 9.90 |
| SO4 | 814. | -- | 930. | -- | 670. | 890. | 915. | -- | 820. | 830. |
| SR | -- | -- | -- | -- | 31.0 | -- | 25.0 | -- | -- | 29.0 |
| TDS105 | -- | -- | -- | -- | 12500. | 11800. | 14900. | -- | 11500. | 12300. |
| TI | -- | -- | -- | -- | -- | -- | <1.00 | -- | -- | <1.00 |
| TOC | -- | -- | -- | -- | <.500 | 8.00 | 5.00 | -- | -- | 7.00 |
| U | -- | -- | -- | -- | <1.00 | -- | <.00100 | -- | -- | .250 |
| V | -- | -- | <.100 | -- | <.200 | -- | <.500 | -- | -- | <.500 |
| ZN | <.0100 | -- | <.0200 | -- | <.0200 | -- | .0400 | -- | -- | .200 |

(CONT'D) DOMTAR QUARRY GROUNDWATER

LOCATION : 03B

| TEST | 831012 | 831219 | 840406 | 840614 | 840930 |
|---|---|---|---|---|---|
| | | | SAMPLING DATE | | |
| AG | -- | -- | -- | <.00020 | -- |
| AL | -- | -- | -- | <1.00 | -- |
| ALKCO3 | <5.00 | -- | 26.0 | 17.0 | <5.00 |
| ALKHCO3 | 82.0 | -- | 154. | 348. | 144. |
| ALKOH | <5.00 | -- | <5.00 | <5.00 | <5.00 |
| AS | -- | -- | -- | <.00100 | -- |
| B | 3.31 | -- | 2.51 | 1.40 | 2.39 |
| BA | -- | -- | -- | <2.00 | -- |
| BE | -- | -- | -- | -- | -- |
| BR | -- | -- | -- | 7.00 | -- |
| CA | 1100. | -- | 679. | 61.3 | 746. |
| CD | -- | -- | -- | .00050 | -- |
| CL | 6700. | -- | 4500. | 280. | 5710. |
| CO | -- | -- | -- | -- | -- |
| COND | 1980. | -- | 1400. | 186. | 1510. |
| CR | -- | -- | -- | <.100 | -- |
| CR(VI) | -- | -- | -- | <.0100 | -- |
| CU | -- | -- | -- | .00300 | -- |
| FE | <.100 | -- | <.0500 | <.0500 | <.100 |
| HARD | 3570. | -- | 2230. | 231. | 2690. |
| HG | -- | -- | -- | <.00020 | -- |
| I | -- | -- | -- | .230 | -- |
| K | 86.0 | -- | 62.0 | 17.8 | 87.7 |
| MG | 200. | -- | 130. | 19.0 | 177. |
| MN | -- | -- | -- | .190 | -- |
| MO | <.500 | -- | <.500 | <.500 | <.500 |
| NA | 3300. | -- | 2130. | 392. | 2370. |
| NI | -- | -- | -- | <.00500 | -- |
| NO3 | .0700 | -- | <5.00 | 2.50 | 2.30 |
| PB | -- | -- | -- | <.00200 | -- |
| PH | 7.70 | -- | 8.00 | 7.90 | 7.60 |
| SE | -- | -- | -- | <.00100 | -- |
| SIO2 | -- | -- | -- | 9.20 | -- |
| SO4 | 850. | -- | 600. | 167. | 676. |
| SR | -- | -- | -- | 1.77 | -- |
| TDS105 | 13900. | -- | 8950. | 1040. | 11000. |
| TI | -- | -- | -- | <1.00 | -- |
| TOC | -- | -- | -- | 13.0 | -- |
| U | -- | -- | -- | <.0400 | -- |
| V | -- | -- | -- | <.0200 | -- |
| ZN | -- | -- | -- | <.0200 | -- |

# TABLE VI

DOMTAR QUARRY GROUNDWATER

LOCATION : 03C

| TEST | SAMPLING DATE 800415 | 800512 | 801216 | 810302 | 820331 | 820629 | 820930 | 821203 | 830310 | 830608 |
|---|---|---|---|---|---|---|---|---|---|---|
| AG | -- | -- | .00300 | -- | <.00020 | -- | .00420 | -- | -- | <.00020 |
| AL | -- | -- | -- | -- | <.500 | -- | <.500 | -- | -- | <.500 |
| ALKCO3 | <5.00 | <5.00 | <5.00 | -- | <5.00 | <5.00 | <5.00 | -- | 16.0 | 15.0 |
| ALKHCO3 | 100. | 66.0 | 110. | -- | 400. | 140. | 135. | -- | 333. | 264. |
| ALKOH | <5.00 | <5.00 | <5.00 | -- | <5.00 | <5.00 | <5.00 | -- | <5.00 | <5.00 |
| AS | -- | -- | .00200 | -- | <.00100 | -- | <.00200 | -- | -- | <.00100 |
| B | <1.00 | -- | 1.60 | -- | 1.10 | 2.00 | 1.90 | -- | <.500 | 2.12 |
| BA | -- | -- | .420 | -- | 12.0 | -- | .800 | -- | -- | <5.00 |
| BE | -- | -- | -- | -- | -- | -- | <.00040 | -- | -- | <.00020 |
| BR | -- | -- | -- | -- | -- | -- | -- | -- | -- | 9.80 |
| CA | 2250. | 4950. | 4560. | -- | 1080. | 4160. | 3700. | -- | 63.0 | 92.0 |
| CD | <.0200 | -- | <.00020 | -- | <.00010 | -- | <.00010 | -- | -- | <.00010 |
| CL | 5800. | 26400. | 24000. | -- | 7300. | 25000. | 25000. | -- | 400. | 890. |
| CO | -- | -- | -- | -- | -- | -- | <.0500 | -- | -- | <.0500 |
| COND | 1600. | 6500. | 5800. | -- | 1820. | 5800. | 5600. | -- | 195. | 360. |
| CR | -- | -- | <.00200 | -- | <.0500 | -- | <.100 | -- | -- | <.0500 |
| CR(VI) | -- | -- | -- | -- | <.00500 | -- | <.100 | -- | -- | <.00600 |
| CU | .0130 | -- | <.00100 | -- | .0150 | -- | .00800 | -- | -- | .00200 |
| FE | <.100 | -- | <.0500 | -- | .600 | 25.0 | 15.0 | -- | <.0500 | <.0500 |
| HARD | 7670. | 16000. | 14600. | -- | 3620. | 13600. | 11200. | -- | 127. | 301. |
| HG | <.00020 | -- | <.00040 | -- | .00020 | -- | <.00020 | -- | -- | <.00020 |
| I | -- | -- | <5.00 | -- | <1.00 | -- | -- | -- | -- | .500 |
| K | 65.0 | 250. | 187. | -- | 61.0 | 192. | 188. | -- | 18.0 | 25.0 |
| MG | 500. | 877. | 774. | -- | 220. | 780. | 720. | -- | 17.0 | 18.0 |
| MN | -- | -- | <25.0 | -- | 7.20 | -- | 13.7 | -- | -- | .450 |
| MO | <.200 | -- | -- | -- | <.500 | <.500 | <.500 | -- | <.500 | <.500 |
| NA | 4500. | 11400. | 9710. | -- | 2600. | 10000. | 9200. | -- | 300. | 590. |
| NI | <.0500 | -- | <.00300 | -- | .0480 | -- | <.00500 | -- | -- | <.00500 |
| NO3 | <.130 | -- | <2.00 | -- | .900 | .0900 | .0400 | -- | <.400 | 1.41 |
| PB | <.100 | -- | <.00200 | -- | .00600 | -- | <.00200 | -- | -- | <.00200 |
| PH | 7.60 | 6.70 | 7.40 | -- | 7.50 | 7.20 | 6.90 | -- | 8.10 | 7.90 |
| SE | -- | -- | .00300 | -- | <.00100 | -- | <.00200 | -- | -- | .00100 |
| SIO2 | -- | -- | -- | -- | 12.0 | -- | 4.10 | -- | -- | 9.70 |
| SO4 | 320. | 920. | 730. | -- | 40.0 | 650. | 730. | -- | 107. | 205. |
| SR | -- | -- | -- | -- | 26.0 | -- | 80.0 | -- | -- | 2.90 |
| TDS105 | -- | -- | -- | -- | 12200. | 48400. | 48200. | -- | 1100. | 2030. |
| TI | -- | -- | -- | -- | -- | -- | <1.00 | -- | -- | <1.00 |
| TOC | -- | -- | -- | -- | 14.0 | 15.0 | 13.0 | -- | -- | 16.0 |
| U | -- | -- | -- | -- | <1.00 | -- | <.00100 | -- | -- | <.0100 |
| V | -- | -- | <.500 | -- | <.200 | -- | <.500 | -- | -- | <.500 |
| ZN | <.130 | -- | <.0200 | -- | .0200 | -- | .0800 | -- | -- | .0400 |

(CONT'D) DOMTAR QUARRY GROUNDWATER

LOCATION : 03C

| TEST | SAMPLING DATE 831012 | 831219 | 840406 | 840614 | 840930 |
|---|---|---|---|---|---|
| AG | -- | -- | -- | <.00020 | -- |
| AL | -- | -- | -- | <1.00 | -- |
| ALKCO3 | 23.0 | -- | 31.0 | <5.00 | <5.00 |
| ALKHCO3 | 257. | -- | 262. | 278. | 181. |
| ALKOH | <5.00 | -- | <5.00 | <5.00 | <5.00 |
| AS | -- | -- | -- | <.00100 | -- |
| B | 2.39 | -- | 2.43 | 2.30 | 2.37 |
| BA | -- | -- | -- | <2.00 | -- |
| BE | -- | -- | -- | -- | -- |
| BR | -- | -- | -- | 11.4 | -- |
| CA | 109. | -- | 112. | 129. | 209. |
| CD | -- | -- | -- | .00050 | -- |
| CL | 900. | -- | 790. | 900. | 1520. |
| CO | -- | -- | -- | -- | -- |
| COND | 357. | -- | 339. | 384. | 530. |
| CR | -- | -- | -- | <.100 | -- |
| CR(VI) | -- | -- | -- | <.0100 | -- |
| CU | -- | -- | -- | .00300 | -- |
| FE | <.100 | -- | <.0500 | <.0500 | <.100 |
| HARD | 387. | -- | 378. | 445. | 702. |
| HG | -- | -- | -- | <.00020 | -- |
| I | -- | -- | -- | <.240 | -- |
| K | 26.0 | -- | 24.0 | 25.8 | 33.2 |
| MG | 28.0 | -- | 23.7 | 29.9 | 44.0 |
| MN | -- | -- | -- | .250 | -- |
| MO | <.500 | -- | <.500 | <.500 | <.500 |
| NA | 600. | -- | 536. | 719. | 924. |
| NI | -- | -- | -- | <.00500 | -- |
| NO3 | 11.6 | -- | <2.00 | 12.2 | 8.50 |
| PB | -- | -- | -- | <.00200 | -- |
| PH | 8.20 | -- | 8.30 | 8.00 | 7.40 |
| SE | -- | -- | -- | <.00100 | -- |
| SIO2 | -- | -- | -- | 8.77 | -- |
| SO4 | 180. | -- | 220. | 270. | 344. |
| SR | -- | -- | -- | 4.20 | -- |
| TDS105 | 2030. | -- | 2000. | 2220. | 3350. |
| TI | -- | -- | -- | <1.00 | -- |
| TOC | -- | -- | -- | 10.0 | -- |
| U | -- | -- | -- | <.0400 | -- |
| V | -- | -- | -- | <.0200 | -- |
| ZN | -- | -- | -- | <.0200 | -- |

# TABLE VII

DOMTAR QUARRY GROUNDWATER

LOCATION : 05A

| TEST | SAMPLING DATE 800415 | 800512 | 801216 | 810302 | 820331 | 820629 | 820930 | 821203 | 830310 | 830608 |
|---|---|---|---|---|---|---|---|---|---|---|
| AG | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.00020 |
| AL | --- | --- | --- | --- | --- | --- | --- | --- | --- | <.500 |
| ALKCO3 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 30.0 |
| ALKHCO3 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 366. |
| ALKOH | --- | --- | --- | --- | --- | --- | --- | --- | --- | <5.00 |
| AS | --- | --- | --- | --- | --- | --- | --- | --- | --- | <.00100 |
| B | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1.72 |
| BA | --- | --- | --- | --- | --- | --- | --- | --- | --- | <5.00 |
| BE | --- | --- | --- | --- | --- | --- | --- | --- | --- | <.00020 |
| BR | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1.70 |
| CA | --- | --- | --- | --- | --- | --- | --- | --- | --- | 48.0 |
| CD | --- | --- | --- | --- | --- | --- | --- | --- | --- | <.00010 |
| CL | --- | --- | --- | --- | --- | --- | --- | --- | --- | 188. |
| CO | --- | --- | --- | --- | --- | --- | --- | --- | --- | <.0500 |
| COND | --- | --- | --- | --- | --- | --- | --- | --- | --- | 150. |
| CR | --- | --- | --- | --- | --- | --- | --- | --- | --- | <.0500 |
| CR(VI) | --- | --- | --- | --- | --- | --- | --- | --- | --- | <.00600 |
| CU | --- | --- | --- | --- | --- | --- | --- | --- | --- | <.00100 |
| FE | --- | --- | --- | --- | --- | --- | --- | --- | --- | <.0500 |
| HARD | --- | --- | --- | --- | --- | --- | --- | --- | --- | 211. |
| HG | --- | --- | --- | --- | --- | --- | --- | --- | --- | <.00020 |
| I | --- | --- | --- | --- | --- | --- | --- | --- | --- | <.0200 |
| K | --- | --- | --- | --- | --- | --- | --- | --- | --- | 33.0 |
| MG | --- | --- | --- | --- | --- | --- | --- | --- | --- | 22.0 |
| MN | --- | --- | --- | --- | --- | --- | --- | --- | --- | <.0500 |
| MO | --- | --- | --- | --- | --- | --- | --- | --- | --- | <.500 |
| NA | --- | --- | --- | --- | --- | --- | --- | --- | --- | 216. |
| NI | --- | --- | --- | --- | --- | --- | --- | --- | --- | <.00500 |
| NO3 | --- | --- | --- | --- | --- | --- | --- | --- | --- | <.0100 |
| PB | --- | --- | --- | --- | --- | --- | --- | --- | --- | <.00200 |
| PH | --- | --- | --- | --- | --- | --- | --- | --- | --- | 8.30 |
| SE | --- | --- | --- | --- | --- | --- | --- | --- | --- | .00200 |
| SIO2 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 18.0 |
| SO4 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 200. |
| SR | --- | --- | --- | --- | --- | --- | --- | --- | --- | 9.80 |
| TDS105 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 898. |
| TI | --- | --- | --- | --- | --- | --- | --- | --- | --- | <1.00 |
| TOC | --- | --- | --- | --- | --- | --- | --- | --- | --- | 21.0 |
| U | --- | --- | --- | --- | --- | --- | --- | --- | --- | <.0100 |
| V | --- | --- | --- | --- | --- | --- | --- | --- | --- | <.500 |
| ZN | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.0200 |

(CONT'D) DOMTAR QUARRY GROUNDWATER

LOCATION : 05A

| TEST | SAMPLING DATE 831012 | 831219 | 840406 | 840614 | 840930 |
|---|---|---|---|---|---|
| AG | -- | -- | -- | <.00020 | -- |
| AL | -- | -- | -- | <1.00 | -- |
| ALKCO3 | -- | -- | -- | 24.0 | -- |
| ALKHCO3 | -- | -- | -- | 307. | -- |
| ALKOH | -- | -- | -- | <5.00 | -- |
| AS | -- | -- | -- | .00100 | -- |
| B | -- | -- | -- | 1.90 | -- |
| BA | -- | -- | -- | <2.00 | -- |
| BE | -- | -- | -- | -- | -- |
| BR | -- | -- | -- | 2.50 | -- |
| CA | -- | -- | -- | 60.1 | -- |
| CD | -- | -- | -- | .00010 | -- |
| CL | -- | -- | -- | 200. | -- |
| CO | -- | -- | -- | -- | -- |
| COND | -- | -- | -- | 161. | -- |
| CR | -- | -- | -- | <.100 | -- |
| CR(VI) | -- | -- | -- | <.0100 | -- |
| CU | -- | -- | -- | .00500 | -- |
| FE | -- | -- | -- | <.0500 | -- |
| HARD | -- | -- | -- | 246. | -- |
| HG | -- | -- | -- | <.00020 | -- |
| I | -- | -- | -- | .0000 | -- |
| K | -- | -- | -- | 24.5 | -- |
| MG | -- | -- | -- | 23.3 | -- |
| MN | -- | -- | -- | <.0700 | -- |
| MO | -- | -- | -- | <.500 | -- |
| NA | -- | -- | -- | 316. | -- |
| NI | -- | -- | -- | <.00500 | -- |
| NO3 | -- | -- | -- | .340 | -- |
| PB | -- | -- | -- | <.00200 | -- |
| PH | -- | -- | -- | 8.10 | -- |
| SE | -- | -- | -- | <.00100 | -- |
| SIO2 | -- | -- | -- | 16.9 | -- |
| SO4 | -- | -- | -- | 286. | -- |
| SR | -- | -- | -- | 5.61 | -- |
| TDS105 | -- | -- | -- | 910. | -- |
| TI | -- | -- | -- | <1.00 | -- |
| TOC | -- | -- | -- | 14.0 | -- |
| U | -- | -- | -- | <.0200 | -- |
| V | -- | -- | -- | .00600 | -- |
| ZN | -- | -- | -- | <.0200 | -- |

# TABLE VIII

DOMTAR QUARRY GROUNDWATER

LOCATION : 05B

| TEST | SAMPLING DATE 800415 | 800512 | 801216 | 810302 | 820331 | 820629 | 820930 | 821203 | 830310 | 830608 |
|---|---|---|---|---|---|---|---|---|---|---|
| AG | -- | -- | -- | -- | -- | -- | -- | -- | -- | .00500 |
| AL | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.500 |
| ALKCO3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | <5.00 |
| ALKHCO3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 54.0 |
| ALKOH | -- | -- | -- | -- | -- | -- | -- | -- | -- | <5.00 |
| AS | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.00100 |
| B | -- | -- | -- | -- | -- | -- | -- | -- | -- | 3.50 |
| BA | -- | -- | -- | -- | -- | -- | -- | -- | -- | <5.00 |
| BE | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.00200 |
| BR | -- | -- | -- | -- | -- | -- | -- | -- | -- | 68.0 |
| CA | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1000. |
| CD | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.00010 |
| CL | -- | -- | -- | -- | -- | -- | -- | -- | -- | 7410. |
| CO | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.0500 |
| COND | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2850. |
| CR | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.0500 |
| CR(VI) | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.00600 |
| CU | -- | -- | -- | -- | -- | -- | -- | -- | -- | .00600 |
| FE | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.10 |
| HARD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 3570. |
| HG | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.00020 |
| I | -- | -- | -- | -- | -- | -- | -- | -- | -- | .700 |
| K | -- | -- | -- | -- | -- | -- | -- | -- | -- | 124. |
| MG | -- | -- | -- | -- | -- | -- | -- | -- | -- | 260. |
| MN | -- | -- | -- | -- | -- | -- | -- | -- | -- | .300 |
| MO | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.500 |
| NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | 3600. |
| NI | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.0500 |
| NO3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | .0300 |
| PB | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.00200 |
| PH | -- | -- | -- | -- | -- | -- | -- | -- | -- | 7.30 |
| SE | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.00100 |
| SIO2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 13.0 |
| SO4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 760. |
| SR | -- | -- | -- | -- | -- | -- | -- | -- | -- | 38.0 |
| TDS105 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 14500. |
| TI | -- | -- | -- | -- | -- | -- | -- | -- | -- | <1.00 |
| TOC | -- | -- | -- | -- | -- | -- | -- | -- | -- | 7.00 |
| U | -- | -- | -- | -- | -- | -- | -- | -- | -- | .400 |
| V | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.500 |
| ZN | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.0200 |

(CONT'D) DOMTAR QUARRY GROUNDWATER

LOCATION : 05B

| TEST | 831012 | 831219 | 840406 | 840614 | 840930 |
|---|---|---|---|---|---|
| | | | | SAMPLING DATE | |
| AG | -- | -- | -- | <.00020 | -- |
| AL | -- | -- | -- | <1.00 | -- |
| ALKCO3 | -- | -- | -- | <5.00 | -- |
| ALKHCO3 | -- | -- | -- | 46.0 | -- |
| ALKOH | -- | -- | -- | <5.00 | -- |
| AS | -- | -- | -- | <.00100 | -- |
| B | -- | -- | -- | 4.50 | -- |
| BA | -- | -- | -- | <2.00 | -- |
| BE | -- | -- | -- | -- | -- |
| BR | -- | -- | -- | -- | -- |
| CA | -- | -- | -- | 1000. | -- |
| CD | -- | -- | -- | <.00010 | -- |
| CL | -- | -- | -- | 8000. | -- |
| CO | -- | -- | -- | -- | -- |
| COND | -- | -- | -- | 2270. | -- |
| CR | -- | -- | -- | <.100 | -- |
| CR(VI) | -- | -- | -- | <.0100 | -- |
| CU | -- | -- | -- | .00500 | -- |
| FE | -- | -- | -- | 1.00 | -- |
| HARD | -- | -- | -- | 1450. | -- |
| HG | -- | -- | -- | .00230 | -- |
| I | -- | -- | -- | -- | -- |
| K | -- | -- | -- | 112. | -- |
| MG | -- | -- | -- | 334. | -- |
| MN | -- | -- | -- | 1.09 | -- |
| MO | -- | -- | -- | <.500 | -- |
| NA | -- | -- | -- | 4000. | -- |
| NI | -- | -- | -- | <.00500 | -- |
| NO3 | -- | -- | -- | .0700 | -- |
| PB | -- | -- | -- | <.00200 | -- |
| PH | -- | -- | -- | 7.20 | -- |
| SE | -- | -- | -- | <.00100 | -- |
| SIO2 | -- | -- | -- | 9.84 | -- |
| SO4 | -- | -- | -- | 906. | -- |
| SR | -- | -- | -- | 41.0 | -- |
| TDS105 | -- | -- | -- | 17400. | -- |
| TI | -- | -- | -- | <1.00 | -- |
| TOC | -- | -- | -- | 6.00 | -- |
| U | -- | -- | -- | -- | -- |
| V | -- | -- | -- | -- | -- |
| ZN | -- | -- | -- | .0400 | -- |

# TABLE IX

## DOMTAR QUARRY GROUNDWATER

LOCATION : 66

| TEST | SAMPLING DATE 880415 | 880512 | 881216 | 810302 | 820331 | 820629 | 820930 | 821203 | 830310 | 830608 |
|---|---|---|---|---|---|---|---|---|---|---|
| AG | -- | -- | -- | -- | <.00020 | -- | .00050 | -- | -- | .00070 |
| AL | -- | -- | -- | -- | <.500 | -- | <.500 | -- | -- | <.500 |
| ALKCO3 | <5.00 | -- | <5.00 | -- | 16.0 | 16.0 | 15.0 | -- | -- | 25.0 |
| ALKHCO3 | 101. | -- | 101. | -- | 135. | 147. | 155. | -- | -- | 170. |
| ALKOH | <5.00 | -- | <5.00 | -- | <5.00 | <5.00 | <5.00 | -- | -- | <5.00 |
| AS | -- | -- | -- | -- | <.00100 | -- | <.00200 | -- | -- | <.00100 |
| B | -- | -- | -- | -- | 2.00 | 2.00 | 2.50 | -- | -- | 2.40 |
| BA | -- | -- | -- | -- | 30.0 | -- | 5.00 | -- | -- | <5.00 |
| BE | -- | -- | -- | -- | -- | -- | .00020 | -- | -- | <.00020 |
| BR | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21.0 |
| CA | 230. | -- | 247. | -- | 250. | 192. | 200. | -- | -- | 194. |
| CD | -- | -- | -- | -- | .00050 | -- | .00020 | -- | -- | <.00010 |
| CL | 2800. | -- | 3100. | -- | 2900. | 2500. | 2550. | -- | -- | 2410. |
| CO | -- | -- | -- | -- | -- | -- | <.0500 | -- | -- | <.0500 |
| COND | 900. | -- | 980. | -- | 880. | 770. | 790. | -- | -- | 750. |
| CR | -- | -- | -- | -- | <.0500 | -- | <.100 | -- | -- | <.0500 |
| CR(VI) | -- | -- | -- | -- | <.00500 | -- | <.100 | -- | -- | <.00600 |
| CU | -- | -- | -- | -- | .00600 | -- | .00300 | -- | -- | .00300 |
| FE | -- | -- | -- | -- | <.100 | <.100 | <.100 | -- | -- | <.0500 |
| HARD | 821. | -- | 868. | -- | 776. | 677. | 780. | -- | -- | 665. |
| HG | -- | -- | -- | -- | <.00020 | -- | <.00020 | -- | -- | <.00020 |
| I | -- | -- | -- | -- | <4.00 | -- | -- | -- | -- | .280 |
| K | 50.0 | -- | 51.0 | -- | 50.0 | 42.0 | 45.0 | -- | -- | 46.0 |
| MG | 60.0 | -- | 61.0 | -- | 37.0 | 46.0 | 50.0 | -- | -- | 44.0 |
| MN | -- | -- | -- | -- | .030 | -- | .700 | -- | -- | .0800 |
| MO | -- | -- | -- | -- | <.500 | <.500 | <.500 | -- | -- | <.500 |
| NA | 1250. | -- | 1700. | -- | 1470. | 1160. | 1280. | -- | -- | 1300. |
| NI | -- | -- | -- | -- | <.00500 | -- | .00900 | -- | -- | .0190 |
| NO3 | -- | -- | -- | -- | .800 | .110 | .0200 | -- | -- | <.0100 |
| PB | -- | -- | -- | -- | .0200 | -- | <.00200 | -- | -- | <.00200 |
| PH | 7.80 | -- | 8.00 | -- | 7.90 | 8.10 | 8.00 | -- | -- | 8.00 |
| SE | -- | -- | -- | -- | <.00100 | -- | <.00200 | -- | -- | .00100 |
| SIO2 | -- | -- | -- | -- | 6.40 | -- | 11.4 | -- | -- | 11.0 |
| SO4 | 184. | -- | 176. | -- | 140. | 160. | 250. | -- | -- | 170. |
| SR | -- | -- | -- | -- | 5.50 | -- | 5.00 | -- | -- | 5.00 |
| TDS105 | -- | -- | -- | -- | 5300. | 4700. | 4950. | -- | -- | 4660. |
| TI | -- | -- | -- | -- | -- | -- | <1.00 | -- | -- | <1.00 |
| TOC | -- | -- | -- | -- | <.500 | 13.0 | 6.00 | -- | -- | 10.0 |
| U | -- | -- | -- | -- | <1.00 | -- | <.00100 | -- | -- | .110 |
| V | -- | -- | -- | -- | <1.00 | -- | <.500 | -- | -- | <.500 |
| ZN | -- | -- | -- | -- | .0200 | -- | .0200 | -- | -- | <.0200 |

(CONT'D) DOMTAR QUARRY GROUNDWATER

LOCATION : 08

| TEST | 831012 | 831219 | 840406 | 840614 | 840930 |
|---|---|---|---|---|---|
| | | | | SAMPLING DATE | |
| AG | -- | -- | -- | <.00020 | -- |
| AL | -- | -- | -- | <1.00 | -- |
| ALKCO3 | -- | -- | -- | 27.0 | -- |
| ALKHCO3 | -- | -- | -- | 464. | -- |
| ALKOH | -- | -- | -- | <5.00 | -- |
| AS | -- | -- | -- | <.00100 | -- |
| B | -- | -- | -- | .600 | -- |
| BA | -- | -- | -- | <2.00 | -- |
| BE | -- | -- | -- | -- | -- |
| BR | -- | -- | -- | .700 | -- |
| CA | -- | -- | -- | 75.6 | -- |
| CD | -- | -- | -- | .00030 | -- |
| CL | -- | -- | -- | 64.0 | -- |
| CO | -- | -- | -- | -- | -- |
| COND | -- | -- | -- | 132. | -- |
| CR | -- | -- | -- | <.100 | -- |
| CR(VI) | -- | -- | -- | <.0100 | -- |
| CU | -- | -- | -- | .0700 | -- |
| FE | -- | -- | -- | <.0500 | -- |
| HARD | -- | -- | -- | 381. | -- |
| HG | -- | -- | -- | <.00020 | -- |
| I | -- | -- | -- | <.0500 | -- |
| K | -- | -- | -- | 11.9 | -- |
| MG | -- | -- | -- | 46.7 | -- |
| MN | -- | -- | -- | .0900 | -- |
| MO | -- | -- | -- | <.500 | -- |
| NA | -- | -- | -- | 85.0 | -- |
| NI | -- | -- | -- | <.00500 | -- |
| NO3 | -- | -- | -- | 2.50 | -- |
| PB | -- | -- | -- | <.00200 | -- |
| PH | -- | -- | -- | 8.00 | -- |
| SE | -- | -- | -- | <.00100 | -- |
| SIO2 | -- | -- | -- | 8.77 | -- |
| SO4 | -- | -- | -- | 170. | -- |
| SR | -- | -- | -- | 2.18 | -- |
| TDS105 | -- | -- | -- | 676. | -- |
| TI | -- | -- | -- | <1.00 | -- |
| TOC | -- | -- | -- | 10.0 | -- |
| U | -- | -- | -- | <.0100 | -- |
| V | -- | -- | -- | .00500 | -- |
| ZN | -- | -- | -- | <.0200 | -- |

# TABLE X

DOMTAR QUARRY GROUNDWATER

LOCATION : DD

| TEST | SAMPLING DATE 800415 | 800512 | 801216 | 810302 | 820331 | 820629 | 820930 | 821203 | 830310 | 830608 |
|---|---|---|---|---|---|---|---|---|---|---|
| AG | -- | -- | -- | -- | <.00020 | -- | -- | -- | -- | .00030 |
| AL | -- | -- | -- | -- | <.500 | -- | -- | -- | -- | <.500 |
| ALKCO3 | -- | -- | -- | -- | 81.0 | 18.0 | -- | -- | 19.0 | <5.00 |
| ALKHCO3 | -- | -- | -- | -- | <5.00 | 210. | -- | -- | 163. | 241. |
| ALKOH | -- | -- | -- | -- | 49.0 | <5.00 | -- | -- | <5.00 | <5.00 |
| AS | -- | -- | -- | -- | <.00140 | -- | -- | -- | -- | <.00100 |
| B | -- | -- | -- | -- | 3.10 | 3.20 | -- | -- | 3.40 | 3.27 |
| BA | -- | -- | -- | -- | <.500 | -- | -- | -- | -- | <5.00 |
| BE | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.00020 |
| BR | -- | -- | -- | -- | -- | -- | -- | -- | -- | 10.3 |
| CA | -- | -- | -- | -- | 11.0 | 52.0 | -- | -- | 90.0 | 57.0 |
| CD | -- | -- | -- | -- | <.00010 | -- | -- | -- | -- | <.00010 |
| CL | -- | -- | -- | -- | 1500. | 1170. | -- | -- | 1300. | 1200. |
| CO | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.0500 |
| COND | -- | -- | -- | -- | 540. | 450. | -- | -- | 520. | 470. |
| CR | -- | -- | -- | -- | <.0500 | -- | -- | -- | -- | <.0500 |
| CR(VI) | -- | -- | -- | -- | <.00500 | -- | -- | -- | -- | <.00600 |
| CU | -- | -- | -- | -- | .0140 | -- | -- | -- | -- | .00200 |
| FE | -- | -- | -- | -- | .250 | <.100 | -- | -- | <.0500 | <.0500 |
| HARD | -- | -- | -- | -- | 53.0 | 196. | -- | -- | 210. | 204. |
| HG | -- | -- | -- | -- | <.00020 | -- | -- | -- | -- | <.00020 |
| I | -- | -- | -- | -- | <4.00 | -- | -- | -- | -- | <.0200 |
| K | -- | -- | -- | -- | 120. | 28.0 | -- | -- | 33.0 | 30.0 |
| MG | -- | -- | -- | -- | 6.00 | 16.0 | -- | -- | 21.0 | 15.0 |
| MN | -- | -- | -- | -- | <.0200 | -- | -- | -- | -- | <.0500 |
| MO | -- | -- | -- | -- | <.500 | <.500 | -- | -- | <.500 | <.500 |
| NA | -- | -- | -- | -- | 950. | 860. | -- | -- | 960. | 980. |
| NI | -- | -- | -- | -- | <.00500 | -- | -- | -- | -- | .00600 |
| NO3 | -- | -- | -- | -- | .600 | .110 | -- | -- | <.400 | 2.70 |
| PB | -- | -- | -- | -- | <.00200 | -- | -- | -- | -- | <.00200 |
| PH | -- | -- | -- | -- | 10.9 | 8.30 | -- | -- | 8.20 | 8.00 |
| SE | -- | -- | -- | -- | <.00100 | -- | -- | -- | -- | .00100 |
| SIO2 | -- | -- | -- | -- | 5.60 | -- | -- | -- | -- | 9.80 |
| SO4 | -- | -- | -- | -- | 460. | 335. | -- | -- | 530. | 320. |
| SR | -- | -- | -- | -- | 1.10 | -- | -- | -- | -- | 1.46 |
| TDS105 | -- | -- | -- | -- | 3200. | 2700. | -- | -- | 3200. | 2720. |
| TI | -- | -- | -- | -- | -- | -- | -- | -- | -- | <1.00 |
| TOC | -- | -- | -- | -- | 9.60 | 26.0 | -- | -- | -- | 8.00 |
| U | -- | -- | -- | -- | <1.00 | -- | -- | -- | -- | .0200 |
| V | -- | -- | -- | -- | <1.00 | -- | -- | -- | -- | <.500 |
| ZN | -- | -- | -- | -- | <.0200 | -- | -- | -- | -- | <.0200 |

(CONT'D) DOMTAR QUARRY GROUNDWATER

LOCATION : DD

| TEST | 831012 | 831219 | 840406 | 840614 | 840930 |
|---|---|---|---|---|---|
| | SAMPLING DATE | | | | |
| AG | -- | -- | -- | <.00020 | -- |
| AL | -- | -- | -- | <1.00 | -- |
| ALKCO3 | 10.0 | -- | 17.0 | 27.0 | <5.00 |
| ALKHCO3 | 105. | -- | 199. | 464. | 120. |
| ALKOH | <5.00 | -- | <5.00 | <5.00 | <5.00 |
| AS | -- | -- | -- | <.00100 | -- |
| B | 3.60 | -- | 3.14 | 4.00 | 3.56 |
| BA | -- | -- | -- | <2.00 | -- |
| BE | -- | -- | -- | -- | -- |
| BR | -- | -- | -- | 12.4 | -- |
| CA | 91.0 | -- | 75.4 | 60.7 | 75.0 |
| CD | -- | -- | -- | .00030 | -- |
| CL | 1300. | -- | 1200. | 1180. | 1200. |
| CO | -- | -- | -- | -- | -- |
| COND | 520. | -- | 460. | 455. | 525. |
| CR | -- | -- | -- | <.100 | -- |
| CR(VI) | -- | -- | -- | <.0100 | -- |
| CU | -- | -- | -- | .00100 | -- |
| FE | <.100 | -- | <.0500 | <.0500 | <.100 |
| HARD | 309. | -- | 253. | 207. | 257. |
| HG | -- | -- | -- | <.00020 | -- |
| I | -- | -- | -- | .460 | -- |
| K | 30.0 | -- | 26.1 | 23.1 | 28.1 |
| MG | 20.0 | -- | 15.6 | 13.3 | 17.1 |
| MN | -- | -- | -- | <.0500 | -- |
| MO | <.500 | -- | <.500 | <.500 | <.500 |
| NA | 1060. | -- | 866. | 867. | 1000. |
| NI | -- | -- | -- | <.00500 | -- |
| NO3 | 7.63 | -- | <2.00 | 3.60 | 3.70 |
| PB | -- | -- | -- | <.00200 | -- |
| PH | 7.90 | -- | 8.20 | 8.10 | 7.90 |
| SE | -- | -- | -- | <.00100 | -- |
| SIO2 | -- | -- | -- | 8.77 | -- |
| SO4 | 620. | -- | 360. | 340. | 600. |
| SR | -- | -- | -- | 1.40 | -- |
| TDS105 | 3230. | -- | 2600. | 2760. | 3150. |
| TI | -- | -- | -- | <1.00 | -- |
| TOC | -- | -- | -- | 9.00 | -- |
| U | -- | -- | -- | <.100 | -- |
| V | -- | -- | -- | .0400 | -- |
| ZN | -- | -- | -- | <.0200 | -- |

# TABLE XI

DOMTAR QUARRY GROUNDWATER

LOCATION : DS

| TEST | SAMPLING DATE 800415 | 800512 | 801216 | 810302 | 820331 | 820629 | 820930 | 821203 | 830310 | 830608 |
|---|---|---|---|---|---|---|---|---|---|---|
| AG | -- | -- | -- | -- | <.00020 | -- | -- | -- | -- | <.00020 |
| AL | -- | -- | -- | -- | <.500 | -- | -- | -- | -- | <.500 |
| ALKCO3 | -- | -- | -- | -- | 27.0 | 32.0 | -- | -- | 27.0 | 34.0 |
| ALKHCO3 | -- | -- | -- | -- | 396. | 190. | -- | -- | 409. | 396. |
| ALKOH | -- | -- | -- | -- | <5.00 | <5.00 | -- | -- | <5.00 | <5.00 |
| AS | -- | -- | -- | -- | <.00100 | -- | -- | -- | -- | <.00100 |
| B | -- | -- | -- | -- | .300 | <.500 | -- | -- | <.500 | .590 |
| BA | -- | -- | -- | -- | 1.80 | -- | -- | -- | -- | <5.00 |
| BE | -- | -- | -- | -- | --- | -- | -- | -- | -- | <.00020 |
| BR | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.30 |
| CA | -- | -- | -- | -- | 145. | 144. | -- | -- | 152. | 123. |
| CD | -- | -- | -- | -- | .00050 | -- | -- | -- | -- | <.00010 |
| CL | -- | -- | -- | -- | 920. | 595. | -- | -- | 610. | 570. |
| CO | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.0500 |
| COND | -- | -- | -- | -- | 260. | 265. | -- | -- | 270. | 266. |
| CR | -- | -- | -- | -- | <.0500 | -- | -- | -- | -- | <.0500 |
| CR(VI) | -- | -- | -- | -- | <.00500 | -- | -- | -- | -- | <.00600 |
| CU | -- | -- | -- | -- | .0140 | -- | -- | -- | -- | <.00100 |
| FE | -- | -- | -- | -- | .330 | <.100 | -- | -- | <.0500 | <.0500 |
| HARD | -- | -- | -- | -- | 815. | 812. | -- | -- | 860. | 739. |
| HG | -- | -- | -- | -- | <.00020 | -- | -- | -- | -- | <.00020 |
| I | -- | -- | -- | -- | <4.00 | -- | -- | -- | -- | .0900 |
| K | -- | -- | -- | -- | 13.0 | 15.0 | -- | -- | 14.0 | 14.0 |
| MG | -- | -- | -- | -- | 110. | 110. | -- | -- | 117. | 105. |
| MN | -- | -- | -- | -- | .0460 | -- | -- | -- | -- | <.0500 |
| MO | -- | -- | -- | -- | <.500 | <.500 | -- | -- | <.500 | <.500 |
| NA | -- | -- | -- | -- | 234. | 272. | -- | -- | 240. | 270. |
| NI | -- | -- | -- | -- | <.00500 | -- | -- | -- | -- | <.00500 |
| NO3 | -- | -- | -- | -- | 4.70 | 2.00 | -- | -- | 2.10 | 2.32 |
| PB | -- | -- | -- | -- | <.00200 | -- | -- | -- | -- | <.00200 |
| PH | -- | -- | -- | -- | 7.70 | 7.90 | -- | -- | 7.80 | 7.80 |
| SE | -- | -- | -- | -- | <.00100 | -- | -- | -- | -- | <.00100 |
| SIO2 | -- | -- | -- | -- | 6.30 | -- | -- | -- | -- | 8.60 |
| SO4 | -- | -- | -- | -- | 150. | 165. | -- | -- | 180. | 180. |
| SR | -- | -- | -- | -- | 3.00 | -- | -- | -- | -- | 3.23 |
| TDS105 | -- | -- | -- | -- | 1500. | 1806. | -- | -- | 1600. | 1650. |
| TI | -- | -- | -- | -- | -- | -- | -- | -- | -- | <1.00 |
| TOC | -- | -- | -- | -- | 27.0 | 13.0 | -- | -- | -- | 15.0 |
| U | -- | -- | -- | -- | <1.00 | -- | -- | -- | -- | .0400 |
| V | -- | -- | -- | -- | <1.00 | -- | -- | -- | -- | <.500 |
| ZN | -- | -- | -- | -- | <.0200 | -- | -- | -- | -- | <.0200 |

(CONT'D) DOMTAR QUARRY GROUNDWATER

LOCATION : DS

| TEST | 831012 | 831219 | 840406 | 840614 | 840930 |
|---|---|---|---|---|---|
| | SAMPLING DATE | | | | |
| AG | -- | -- | -- | <.00020 | -- |
| AL | -- | -- | -- | <1.00 | -- |
| ALKCO3 | 33.0 | -- | 26.0 | <5.00 | <5.00 |
| ALKHCO3 | 414. | -- | 415. | 428. | 289. |
| ALKOH | <5.00 | -- | <5.00 | <5.00 | <5.00 |
| AS | -- | -- | -- | <.00100 | -- |
| B | .810 | -- | .500 | .600 | .700 |
| BA | -- | -- | -- | <2.00 | -- |
| BE | -- | -- | -- | -- | -- |
| BR | -- | -- | -- | 2.30 | -- |
| CA | 166. | -- | 143. | 134. | 146. |
| CD | -- | -- | -- | .00020 | -- |
| CL | 590. | -- | 530. | 520. | 549. |
| CO | -- | -- | -- | -- | -- |
| COND | 278. | -- | 248. | 245. | 243. |
| CR | -- | -- | -- | <.100 | -- |
| CR(VI) | -- | -- | -- | <.0100 | -- |
| CU | -- | -- | -- | .00300 | -- |
| FE | <.100 | -- | <.0500 | <.0500 | <.100 |
| HARD | 980. | -- | 781. | 745. | 817. |
| HG | -- | -- | -- | <.00020 | -- |
| I | -- | -- | -- | <.140 | -- |
| K | 17.0 | -- | 12.0 | 12.0 | 15.3 |
| MG | 118. | -- | 103. | 100. | 110. |
| MN | -- | -- | -- | <.0500 | -- |
| MO | <.500 | -- | <.500 | <.500 | <.500 |
| NA | 300. | -- | 251. | 326. | 295. |
| NI | -- | -- | -- | <.00500 | -- |
| NO3 | 1.50 | -- | 2.00 | 2.20 | 1.54 |
| PB | -- | -- | -- | <.00200 | -- |
| PH | 7.70 | -- | 7.80 | 7.60 | 7.10 |
| SE | -- | -- | -- | <.00100 | -- |
| SIO2 | -- | -- | -- | 8.56 | -- |
| SO4 | 170. | -- | 160. | 155. | 149. |
| SR | -- | -- | -- | 2.61 | -- |
| TDS105 | 1660. | -- | 1550. | 1450. | 1480. |
| TI | -- | -- | -- | <1.00 | -- |
| TOC | -- | -- | -- | 10.0 | -- |
| U | -- | -- | -- | <.0400 | -- |
| V | -- | -- | -- | <.0100 | -- |
| ZN | -- | -- | -- | <.0200 | -- |

# TABLE XII

DOMTAR QUARRY GROUNDWATER

LOCATION : ED2

| TEST | SAMPLING DATE 800415 | 800512 | 801216 | 810302 | 820331 | 820629 | 820930 | 821203 | 830310 | 830608 |
|---|---|---|---|---|---|---|---|---|---|---|
| AG | -- | -- | -- | -- | <.00020 | -- | .00100 | -- | -- | .00080 |
| AL | -- | -- | -- | -- | <.500 | -- | <.500 | -- | -- | <.500 |
| ALKCO3 | -- | -- | -- | -- | 13.0 | 13.0 | 20.0 | -- | 17.0 | 14.0 |
| ALKHCO3 | -- | -- | -- | -- | 51.0 | 91.0 | 99.0 | -- | 113. | 114. |
| ALKOH | -- | -- | -- | -- | <5.00 | <5.00 | <5.00 | -- | <5.00 | <5.00 |
| AS | -- | -- | -- | -- | <.00100 | -- | <.00200 | -- | -- | <.00100 |
| B | -- | -- | -- | -- | 2.40 | 2.60 | 2.50 | -- | 3.30 | 2.68 |
| BA | -- | -- | -- | -- | 1.40 | -- | 4.00 | -- | -- | <5.00 |
| BE | -- | -- | -- | -- | -- | -- | <.00020 | -- | -- | <.00020 |
| BR | -- | -- | -- | -- | -- | -- | -- | -- | -- | 28.0 |
| CA | -- | -- | -- | -- | 116. | 132. | 152. | -- | 167. | 161. |
| CD | -- | -- | -- | -- | .00030 | -- | .00020 | -- | -- | <.00010 |
| CL | -- | -- | -- | -- | 2600. | 2320. | 2550. | -- | 2500. | 2570. |
| CO | -- | -- | -- | -- | -- | -- | <.0500 | -- | -- | <.0500 |
| COND | -- | -- | -- | -- | 770. | 740. | 800. | -- | 830. | 810. |
| CR | -- | -- | -- | -- | <.0500 | -- | <.100 | -- | -- | <.0500 |
| CR(VI) | -- | -- | -- | -- | <.00500 | -- | <.100 | -- | -- | <.00600 |
| CU | -- | -- | -- | -- | .00600 | -- | .00200 | -- | -- | .00300 |
| FE | -- | -- | -- | -- | <.100 | <.100 | <.100 | -- | <.0500 | <.100 |
| HARD | -- | -- | -- | -- | 442. | 486. | 430. | -- | 585. | 564. |
| HG | -- | -- | -- | -- | <.00020 | -- | <.00020 | -- | -- | <.00020 |
| I | -- | -- | -- | -- | <4.00 | -- | -- | -- | -- | .440 |
| K | -- | -- | -- | -- | 51.0 | 40.0 | 46.0 | -- | 42.0 | 44.0 |
| MG | -- | -- | -- | -- | 37.0 | 38.0 | 37.0 | -- | 41.0 | 35.0 |
| MN | -- | -- | -- | -- | .0400 | -- | .100 | -- | -- | <.100 |
| MO | -- | -- | -- | -- | <.500 | <.500 | <.500 | -- | <.500 | <.500 |
| NA | -- | -- | -- | -- | 1370. | 1380. | 1450. | -- | 1360. | 1460. |
| NI | -- | -- | -- | -- | <.00500 | -- | .00600 | -- | -- | .0150 |
| NO3 | -- | -- | -- | -- | .900 | .0300 | .0700 | -- | <1.00 | <.0100 |
| PB | -- | -- | -- | -- | .0300 | -- | <.00200 | -- | -- | <.00200 |
| PH | -- | -- | -- | -- | 8.00 | 8.10 | 8.10 | -- | 8.10 | 7.90 |
| SE | -- | -- | -- | -- | <.00100 | -- | <.00200 | -- | -- | <.00100 |
| SIO2 | -- | -- | -- | -- | 8.20 | -- | 10.0 | -- | -- | 9.10 |
| SO4 | -- | -- | -- | -- | 210. | 236. | 265. | -- | 275. | 275. |
| SR | -- | -- | -- | -- | 4.50 | -- | 4.40 | -- | -- | 5.10 |
| TDS105 | -- | -- | -- | -- | 4500. | 4600. | 4700. | -- | 4800. | 5010. |
| TI | -- | -- | -- | -- | -- | -- | <1.00 | -- | -- | <1.00 |
| TOC | -- | -- | -- | -- | 52.0 | 10.0 | 10.0 | -- | -- | 6.00 |
| U | -- | -- | -- | -- | <1.00 | -- | <.00100 | -- | -- | .130 |
| V | -- | -- | -- | -- | <1.00 | -- | <.500 | -- | -- | <.500 |
| ZN | -- | -- | -- | -- | <.0200 | -- | .0200 | -- | -- | <.0200 |

(CONT'D) DOMTAR QUARRY GROUNDWATER

LOCATION : ED2

| TEST | 831012 | 831219 | 840406 | 840614 | 840930 |
|---|---|---|---|---|---|
| | | | | SAMPLING DATE | |
| AG | -- | -- | -- | <.00020 | -- |
| AL | -- | -- | -- | <1.00 | -- |
| ALKCO3 | 11.0 | -- | 30.0 | <5.00 | <5.00 |
| ALKHCO3 | 115. | -- | 94.0 | 128. | 129. |
| ALKOH | <5.00 | -- | <5.00 | <5.00 | <5.00 |
| AS | -- | -- | -- | <.00100 | -- |
| B | 3.14 | -- | 2.77 | 3.00 | 2.88 |
| BA | -- | -- | -- | <2.00 | -- |
| BE | -- | -- | -- | -- | -- |
| BR | -- | -- | -- | -- | -- |
| CA | 173. | -- | 188. | 182. | 167. |
| CD | -- | -- | -- | .00030 | -- |
| CL | 2400. | -- | 2600. | 2500. | 2620. |
| CO | -- | -- | -- | -- | -- |
| COND | 805. | -- | 830. | 810. | 741. |
| CR | -- | -- | -- | <.100 | -- |
| CR(VI) | -- | -- | -- | <.0100 | -- |
| CU | -- | -- | -- | .00300 | -- |
| FE | <.100 | -- | <.0500 | <.0500 | <.100 |
| HARD | 601. | -- | 539. | 632. | 594. |
| HG | -- | -- | -- | <.00020 | -- |
| I | -- | -- | -- | -- | -- |
| K | 46.0 | -- | 42.6 | 42.1 | 42.3 |
| MG | 41.0 | -- | 41.2 | 43.3 | 43.0 |
| MN | -- | -- | -- | .190 | -- |
| MO | <.500 | -- | <.500 | <.500 | <.500 |
| NA | 1580. | -- | 1640. | 1520. | 1540. |
| NI | -- | -- | -- | .0250 | -- |
| NO3 | <.0100 | -- | <5.00 | .6200 | 0.02 |
| PB | -- | -- | -- | <.00200 | -- |
| PH | 8.00 | -- | 8.20 | 7.90 | 7.80 |
| SE | -- | -- | -- | <.00100 | -- |
| SIO2 | -- | -- | -- | 8.34 | -- |
| SO4 | 280. | -- | 240. | 276. | 283. |
| SR | -- | -- | -- | 4.60 | -- |
| TDS105 | 4920. | -- | 5000. | 4940. | 4900. |
| TI | -- | -- | -- | <1.00 | -- |
| TOC | -- | -- | -- | 7.00 | -- |
| U | -- | -- | -- | -- | -- |
| V | -- | -- | -- | -- | -- |
| ZN | -- | -- | -- | <.0200 | -- |

# TABLE XIII

DOMTAR QUARRY GROUNDWATER

LOCATION : EI

| TEST | SAMPLING DATE 800415 | 800512 | 801216 | 810302 | 820331 | 820629 | 820930 | 821203 | 830310 | 830608 |
|---|---|---|---|---|---|---|---|---|---|---|
| AG | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.00020 |
| AL | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.500 |
| ALKCO3 | -- | -- | -- | 11.0 | -- | 8.00 | -- | -- | 28.0 | <5.00 |
| ALKHCO3 | -- | -- | -- | 65.0 | -- | 68.0 | -- | -- | 305. | 403. |
| ALKOH | -- | -- | -- | <5.00 | -- | <5.00 | -- | -- | <5.00 | <5.00 |
| AS | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.00100 |
| B | -- | -- | -- | -- | -- | 1.60 | -- | -- | <.500 | .150 |
| BA | -- | -- | -- | -- | -- | -- | -- | -- | -- | <5.00 |
| BE | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.00020 |
| BR | -- | -- | -- | -- | -- | -- | -- | -- | -- | .370 |
| CA | -- | -- | -- | 27.0 | -- | 70.0 | -- | -- | 126. | 124. |
| CD | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.00010 |
| CL | -- | -- | -- | 398. | -- | 655. | -- | -- | 54.0 | 14.0 |
| CO | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.0500 |
| COND | -- | -- | -- | 168. | -- | 236. | -- | -- | 70.0 | 78.0 |
| CR | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.0500 |
| CR(VI) | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.00600 |
| CU | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.00100 |
| FE | -- | -- | -- | -- | -- | <.100 | -- | -- | <.500 | <.0500 |
| HARD | -- | -- | -- | 94.0 | -- | 249. | -- | -- | 389. | 372. |
| HG | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.00020 |
| I | -- | -- | -- | -- | -- | -- | -- | -- | -- | .0300 |
| K | -- | -- | -- | 21.0 | -- | 21.0 | -- | -- | 3.50 | 2.90 |
| MG | -- | -- | -- | 6.50 | -- | 18.0 | -- | -- | 18.0 | 15.0 |
| MN | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.0500 |
| MO | -- | -- | -- | -- | -- | <.500 | -- | -- | <.500 | <.500 |
| NA | -- | -- | -- | 298. | -- | 378. | -- | -- | 20.0 | 20.0 |
| NI | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.00500 |
| NO3 | -- | -- | -- | <2.00 | -- | .0780 | -- | -- | 1.10 | .250 |
| PB | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.00200 |
| PH | -- | -- | -- | 8.60 | -- | 8.30 | -- | -- | 8.10 | 7.90 |
| SE | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.00100 |
| SIO2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 18.0 |
| SO4 | -- | -- | -- | 120. | -- | 132. | -- | -- | 29.0 | 20.0 |
| SR | -- | -- | -- | -- | -- | -- | -- | -- | -- | .620 |
| TDS105 | -- | -- | -- | -- | -- | 1400. | -- | -- | 380. | 438. |
| TI | -- | -- | -- | -- | -- | -- | -- | -- | -- | <1.00 |
| TOC | -- | -- | -- | -- | -- | 7.00 | -- | -- | -- | 16.0 |
| U | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.0100 |
| V | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.500 |
| ZN | -- | -- | -- | -- | -- | -- | -- | -- | -- | <.0200 |

(CONT'D) DOMTAR QUARRY GROUNDWATER

LOCATION : EI

| TEST | 831012 | 831219 | 840406 | 840614 | SAMPLING DATE 840930 |
|---|---|---|---|---|---|
| AG | -- | -- | -- | <.00020 | -- |
| AL | -- | -- | -- | <1.00 | -- |
| ALKCO3 | <5.00 | -- | 27.0 | <5.00 | <5.00 |
| ALKHCO3 | 276. | -- | 95.0 | 197. | 256. |
| ALKOH | <5.00 | -- | <5.00 | <5.00 | <5.00 |
| AS | -- | -- | -- | <.00100 | -- |
| B | .340 | -- | .760 | .0800 | <.0500 |
| BA | -- | -- | -- | <2.00 | -- |
| BE | -- | -- | -- | -- | -- |
| BR | -- | -- | -- | .300 | -- |
| CA | 100. | -- | 365. | 85.4 | 128. |
| CD | -- | -- | -- | .00030 | -- |
| CL | 16.0 | -- | 1400. | 29.0 | 42.0 |
| CO | -- | -- | -- | -- | -- |
| COND | 62.0 | -- | 500. | 54.0 | 57.0 |
| CR | -- | -- | -- | <.100 | -- |
| CR(VI) | -- | -- | -- | <.0100 | -- |
| CU | -- | -- | -- | .00800 | -- |
| FE | <.100 | -- | <.0500 | <.0500 | <.100 |
| HARD | 328. | -- | 980. | 258. | 384. |
| HG | -- | -- | -- | <.00020 | -- |
| I | -- | -- | -- | <.0400 | -- |
| K | 3.70 | -- | 28.3 | 1.51 | 2.59 |
| MG | 14.0 | -- | 52.9 | 11.0 | 15.5 |
| MN | -- | -- | -- | <.0500 | -- |
| MO | <.500 | -- | <.500 | <.500 | <.500 |
| NA | 22.0 | -- | 636. | 24.6 | 29.9 |
| NI | -- | -- | -- | <.00500 | -- |
| NO3 | 1.30 | -- | 2.40 | .570 | <0.013 |
| PB | -- | -- | -- | <.00200 | -- |
| PH | 8.20 | -- | 8.00 | 7.90 | 7.20 |
| SE | -- | -- | -- | <.00100 | -- |
| SIO2 | -- | -- | -- | 8.34 | -- |
| SO4 | 56.0 | -- | 180. | 44.0 | 60.0 |
| SR | -- | -- | -- | .290 | -- |
| TDS105 | 370. | -- | 3100. | 330. | 393. |
| TI | -- | -- | -- | <1.00 | -- |
| TOC | -- | -- | -- | 13.0 | -- |
| U | -- | -- | -- | <.0100 | -- |
| V | -- | -- | -- | <.00200 | -- |
| ZN | -- | -- | -- | <.0200 | -- |

# TABLE XIV

DOMTAR QUARRY GROUNDWATER

LOCATION : ES

| TEST | SAMPLING DATE 800415 | 800512 | 801216 | 810302 | 820331 | 820629 | 820930 | 821203 | 830310 | 830608 |
|---|---|---|---|---|---|---|---|---|---|---|
| AG | -- | -- | -- | -- | -- | -- | <.00020 | -- | -- | <.00020 |
| AL | -- | -- | -- | -- | -- | -- | <.500 | -- | -- | <.500 |
| ALKCO3 | -- | -- | -- | <5.00 | -- | <5.00 | 25.0 | -- | 23.0 | 24.0 |
| ALKHCO3 | -- | -- | -- | 310. | -- | 340. | 376. | -- | 370. | 339. |
| ALKOH | -- | -- | -- | <5.00 | -- | <5.00 | <5.00 | -- | <5.00 | <5.00 |
| AS | -- | -- | -- | -- | -- | -- | <.00200 | -- | -- | <.00100 |
| B | -- | -- | -- | -- | -- | <.500 | <1.00 | -- | <.500 | .320 |
| BA | -- | -- | -- | -- | -- | -- | 2.50 | -- | -- | <5.00 |
| BE | -- | -- | -- | -- | -- | -- | <.00020 | -- | -- | <.00020 |
| BR | -- | -- | -- | -- | -- | -- | -- | -- | -- | .660 |
| CA | -- | -- | -- | 140. | -- | 132. | 138. | -- | 136. | 105. |
| CD | -- | -- | -- | -- | -- | -- | .00010 | -- | -- | <.00010 |
| CL | -- | -- | -- | 210. | -- | 213. | 170. | -- | 190. | 145. |
| CO | -- | -- | -- | -- | -- | -- | <.0500 | -- | -- | <.0500 |
| COND | -- | -- | -- | 160. | -- | 48.0 | 165. | -- | 142. | 130. |
| CR | -- | -- | -- | -- | -- | -- | <.100 | -- | -- | <.0500 |
| CR(VI) | -- | -- | -- | -- | -- | -- | <.100 | -- | -- | <.00600 |
| CU | -- | -- | -- | -- | -- | -- | .00100 | -- | -- | <.00100 |
| FE | -- | -- | -- | -- | -- | <.100 | <.100 | -- | <.0500 | <.0500 |
| HARD | -- | -- | -- | 580. | -- | 552. | 560. | -- | 561. | 422. |
| HG | -- | -- | -- | -- | -- | -- | <.00020 | -- | -- | <.00020 |
| I | -- | -- | -- | -- | -- | -- | -- | -- | -- | .300 |
| K | -- | -- | -- | 11.5 | -- | 7.20 | 7.70 | -- | 6.40 | 5.50 |
| MG | -- | -- | -- | 55.8 | -- | 54.0 | 53.0 | -- | 54.0 | 39.0 |
| MN | -- | -- | -- | -- | -- | -- | .0700 | -- | -- | .0800 |
| MO | -- | -- | -- | -- | -- | <.500 | <.500 | -- | <.500 | <.500 |
| NA | -- | -- | -- | 137. | -- | 138. | 122. | -- | 116. | 109. |
| NI | -- | -- | -- | -- | -- | -- | <.00500 | -- | -- | <.00500 |
| NO3 | -- | -- | -- | <2.00 | -- | .440 | .510 | -- | .480 | <.0100 |
| PB | -- | -- | -- | -- | -- | -- | <.00200 | -- | -- | <.00200 |
| PH | -- | -- | -- | 8.10 | -- | 7.90 | 8.10 | -- | 7.80 | 7.90 |
| SE | -- | -- | -- | -- | -- | -- | <.00200 | -- | -- | <.00100 |
| SIO2 | -- | -- | -- | -- | -- | -- | 12.0 | -- | -- | 9.40 |
| SO4 | -- | -- | -- | 210. | -- | 220. | 170. | -- | 180. | 150. |
| SR | -- | -- | -- | -- | -- | -- | 1.30 | -- | -- | 1.10 |
| TDS105 | -- | -- | -- | -- | -- | 960. | 855. | -- | 780. | 728. |
| TI | -- | -- | -- | -- | -- | -- | <1.00 | -- | -- | <1.00 |
| TOC | -- | -- | -- | -- | -- | 13.0 | 12.0 | -- | -- | 17.0 |
| U | -- | -- | -- | -- | -- | -- | <.00100 | -- | -- | <.0100 |
| V | -- | -- | -- | -- | -- | -- | <.500 | -- | -- | <.500 |
| ZN | -- | -- | -- | -- | -- | -- | <.0200 | -- | -- | <.0200 |

(CONT'D) DOMTAR QUARRY GROUNDWATER

LOCATION : ES

| TEST | 831012 | 831219 | 840406 | 840614 | 840930 |
|---|---|---|---|---|---|
| | SAMPLING DATE | | | | |
| AG | -- | -- | -- | <.00020 | -- |
| AL | -- | -- | -- | <1.00 | -- |
| ALKCO3 | <5.00 | -- | 25.0 | <5.00 | <5.00 |
| ALKHCO3 | 407. | -- | 356. | 343. | 212. |
| ALKOH | <5.00 | -- | <5.00 | <5.00 | <5.00 |
| AS | -- | -- | -- | <.00100 | -- |
| B | .970 | -- | .280 | .480 | .470 |
| BA | -- | -- | -- | <2.00 | -- |
| BE | -- | -- | -- | -- | -- |
| BR | -- | -- | -- | 1.00 | -- |
| CA | 192. | -- | 131. | 110. | 150. |
| CD | -- | -- | -- | <.00010 | -- |
| CL | 220. | -- | 190. | 180. | 200. |
| CO | -- | -- | -- | -- | -- |
| COND | 183. | -- | 145. | 131. | 142. |
| CR | -- | -- | -- | <.100 | -- |
| CR(VI) | -- | -- | -- | <.0100 | -- |
| CU | -- | -- | -- | <.00100 | -- |
| FE | <.100 | -- | <.0500 | <.0500 | <.100 |
| HARD | 796. | -- | 427. | 447. | 622. |
| HG | -- | -- | -- | <.00020 | -- |
| I | -- | -- | -- | <.0500 | -- |
| K | 9.50 | -- | 6.07 | 4.90 | 9.10 |
| MG | 77.0 | -- | 48.4 | 42.0 | 60.2 |
| MN | -- | -- | -- | .110 | -- |
| MO | <.500 | -- | <.500 | <.500 | <.500 |
| NA | 190. | -- | 120. | 106. | 131. |
| NI | -- | -- | -- | <.00500 | -- |
| NO3 | .220 | -- | <.500 | .0200 | 0.06 |
| PB | -- | -- | -- | <.00200 | -- |
| PH | 7.60 | -- | 8.00 | 7.60 | 7.10 |
| SE | -- | -- | -- | <.00100 | -- |
| SIO2 | -- | -- | -- | 8.90 | -- |
| SO4 | 280. | -- | 130. | 109. | 190. |
| SR | -- | -- | -- | 1.00 | -- |
| TDS105 | 1100. | -- | 900. | 670. | 900. |
| TI | -- | -- | -- | <1.00 | -- |
| TOC | -- | -- | -- | 10.0 | -- |
| U | -- | -- | -- | <.0200 | -- |
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| ZN | -- | -- | -- | <.0200 | -- |

# TABLE XV

DOMTAR QUARRY GROUNDWATER

LOCATION : FD

| TEST | SAMPLING DATE 800415 | 800512 | 801216 | 810302 | 820331 | 820629 | 820930 | 821203 | 830310 | 830608 |
|---|---|---|---|---|---|---|---|---|---|---|
| AG | -- | -- | -- | -- | -- | -- | .00240 | -- | -- | -- |
| AL | -- | -- | -- | -- | -- | -- | <.500 | -- | -- | -- |
| ALKCO3 | -- | -- | -- | -- | -- | -- | <5.00 | -- | -- | -- |
| ALKHCO3 | -- | -- | -- | -- | -- | -- | 49.0 | -- | -- | -- |
| ALKOH | -- | -- | -- | -- | -- | -- | <5.00 | -- | -- | -- |
| AS | -- | -- | -- | -- | -- | -- | <.00200 | -- | -- | -- |
| B | -- | -- | -- | -- | -- | -- | 2.90 | -- | -- | -- |
| BA | -- | -- | -- | -- | -- | -- | 12.0 | -- | -- | -- |
| BE | -- | -- | -- | -- | -- | -- | <.00040 | -- | -- | -- |
| BR | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CA | -- | -- | -- | -- | -- | -- | 600. | -- | -- | -- |
| CD | -- | -- | -- | -- | -- | -- | .00060 | -- | -- | -- |
| CL | -- | -- | -- | -- | -- | -- | 4200. | -- | -- | -- |
| CO | -- | -- | -- | -- | -- | -- | <.0500 | -- | -- | -- |
| COND | -- | -- | -- | -- | -- | -- | 1320. | -- | -- | -- |
| CR | -- | -- | -- | -- | -- | -- | <.100 | -- | -- | -- |
| CR(VI) | -- | -- | -- | -- | -- | -- | <.100 | -- | -- | -- |
| CU | -- | -- | -- | -- | -- | -- | .00600 | -- | -- | -- |
| FE | -- | -- | -- | -- | -- | -- | <.100 | -- | -- | -- |
| HARD | -- | -- | -- | -- | -- | -- | 1990. | -- | -- | -- |
| HG | -- | -- | -- | -- | -- | -- | <.00020 | -- | -- | -- |
| I | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| K | -- | -- | -- | -- | -- | -- | 66.0 | -- | -- | -- |
| MG | -- | -- | -- | -- | -- | -- | 110. | -- | -- | -- |
| MN | -- | -- | -- | -- | -- | -- | .380 | -- | -- | -- |
| MO | -- | -- | -- | -- | -- | -- | <.500 | -- | -- | -- |
| NA | -- | -- | -- | -- | -- | -- | 2060. | -- | -- | -- |
| NI | -- | -- | -- | -- | -- | -- | .0100 | -- | -- | -- |
| NO3 | -- | -- | -- | -- | -- | -- | .0200 | -- | -- | -- |
| PB | -- | -- | -- | -- | -- | -- | <.00200 | -- | -- | -- |
| PH | -- | -- | -- | -- | -- | -- | 7.60 | -- | -- | -- |
| SE | -- | -- | -- | -- | -- | -- | <.00200 | -- | -- | -- |
| SIO2 | -- | -- | -- | -- | -- | -- | 11.0 | -- | -- | -- |
| SO4 | -- | -- | -- | -- | -- | -- | 865. | -- | -- | -- |
| SR | -- | -- | -- | -- | -- | -- | 15.0 | -- | -- | -- |
| TDS105 | -- | -- | -- | -- | -- | -- | 8900. | -- | -- | -- |
| TI | -- | -- | -- | -- | -- | -- | <1.00 | -- | -- | -- |
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(CONT'D) DOMTAR QUARRY GROUNDWATER

LOCATION : FD

| TEST | SAMPLING DATE 831012 | 831219 | 840406 | 840614 | 840930 |
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| NO3 | -- | -- | -- | -- | -- |
| PB | -- | -- | -- | -- | -- |
| PH | -- | -- | -- | -- | -- |
| SE | -- | -- | -- | -- | -- |
| SI02 | -- | -- | -- | -- | -- |
| SO4 | -- | -- | -- | -- | -- |
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| TDS105 | -- | -- | -- | -- | -- |
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# TABLE XVI

## DOMTAR QUARRY GROUNDWATER

LOCATION : FS

| TEST | SAMPLING DATE 800415 | 800512 | 801216 | 810302 | 820331 | 820629 | 820930 | 821203 | 830310 | 830608 |
|---|---|---|---|---|---|---|---|---|---|---|
| AG | -- | -- | -- | -- | -- | -- | <.00020 | -- | -- | -- |
| AL | -- | -- | -- | -- | -- | -- | <.500 | -- | -- | -- |
| ALKCO3 | -- | -- | -- | -- | -- | -- | 21.0 | -- | -- | -- |
| ALKHCO3 | -- | -- | -- | -- | -- | -- | <5.00 | -- | -- | -- |
| ALKOH | -- | -- | -- | -- | -- | -- | 25.0 | -- | -- | -- |
| AS | -- | -- | -- | -- | -- | -- | <.00200 | -- | -- | -- |
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| BA | -- | -- | -- | -- | -- | -- | .600 | -- | -- | -- |
| BE | -- | -- | -- | -- | -- | -- | <.00020 | -- | -- | -- |
| BR | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CA | -- | -- | -- | -- | -- | -- | 28.0 | -- | -- | -- |
| CD | -- | -- | -- | -- | -- | -- | <.00010 | -- | -- | -- |
| CL | -- | -- | -- | -- | -- | -- | 260. | -- | -- | -- |
| CO | -- | -- | -- | -- | -- | -- | <.0500 | -- | -- | -- |
| COND | -- | -- | -- | -- | -- | -- | 140. | -- | -- | -- |
| CR | -- | -- | -- | -- | -- | -- | <.100 | -- | -- | -- |
| CR(VI) | -- | -- | -- | -- | -- | -- | <.100 | -- | -- | -- |
| CU | -- | -- | -- | -- | -- | -- | <.00100 | -- | -- | -- |
| FE | -- | -- | -- | -- | -- | -- | <.100 | -- | -- | -- |
| HARD | -- | -- | -- | -- | -- | -- | 100. | -- | -- | -- |
| HG | -- | -- | -- | -- | -- | -- | <.00020 | -- | -- | -- |
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| K | -- | -- | -- | -- | -- | -- | 30.0 | -- | -- | -- |
| MG | -- | -- | -- | -- | -- | -- | 7.30 | -- | -- | -- |
| MN | -- | -- | -- | -- | -- | -- | <.0200 | -- | -- | -- |
| MO | -- | -- | -- | -- | -- | -- | <.500 | -- | -- | -- |
| NA | -- | -- | -- | -- | -- | -- | 225. | -- | -- | -- |
| NI | -- | -- | -- | -- | -- | -- | .00600 | -- | -- | -- |
| NO3 | -- | -- | -- | -- | -- | -- | .0400 | -- | -- | -- |
| PB | -- | -- | -- | -- | -- | -- | <.00200 | -- | -- | -- |
| PH | -- | -- | -- | -- | -- | -- | 10.6 | -- | -- | -- |
| SE | -- | -- | -- | -- | -- | -- | <.00200 | -- | -- | -- |
| SIO2 | -- | -- | -- | -- | -- | -- | 6.60 | -- | -- | -- |
| SO4 | -- | -- | -- | -- | -- | -- | 230. | -- | -- | -- |
| SR | -- | -- | -- | -- | -- | -- | 1.00 | -- | -- | -- |
| TDS105 | -- | -- | -- | -- | -- | -- | 850. | -- | -- | -- |
| TI | -- | -- | -- | -- | -- | -- | <1.00 | -- | -- | -- |
| TOC | -- | -- | -- | -- | -- | -- | 3.00 | -- | -- | -- |
| U | -- | -- | -- | -- | -- | -- | <.00100 | -- | -- | -- |
| V | -- | -- | -- | -- | -- | -- | <.500 | -- | -- | -- |
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(CONT'D) DOMTAR QUARRY GROUNDWATER

LOCATION : FS

| TEST | 831012 | 831219 | 840406 | 840614 | SAMPLING DATE 840930 |
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| ALKCO3 | -- | -- | -- | -- | -- |
| ALKHCO3 | -- | -- | -- | -- | -- |
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| BR | -- | -- | -- | -- | -- |
| CA | -- | -- | -- | -- | -- |
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| COND | -- | -- | -- | -- | -- |
| CR | -- | -- | -- | -- | -- |
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| FE | -- | -- | -- | -- | -- |
| HARD | -- | -- | -- | -- | -- |
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| MG | -- | -- | -- | -- | -- |
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| MO | -- | -- | -- | -- | -- |
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| PB | -- | -- | -- | -- | -- |
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| SO4 | -- | -- | -- | -- | -- |
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| TDS105 | -- | -- | -- | -- | -- |
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| ZN | -- | -- | -- | -- | -- |

# TABLE XVII

DOMTAR QUARRY GROUNDWATER

LOCATION : G

| TEST | SAMPLING DATE 800415 | 800512 | 801216 | 810302 | 820331 | 820629 | 820930 | 821203 | 830310 | 830608 |
|---|---|---|---|---|---|---|---|---|---|---|
| AG | -- | -- | -- | -- | <.00020 | -- | <.00020 | -- | -- | .00060 |
| AL | -- | -- | -- | -- | <.500 | -- | <.500 | -- | -- | <.500 |
| ALKCO3 | -- | -- | -- | -- | 17.0 | 20.0 | 21.0 | -- | -- | <5.00 |
| ALKHCO3 | -- | -- | -- | -- | 119. | 210. | 198. | -- | -- | 217. |
| ALKOH | -- | -- | -- | -- | <5.00 | <5.00 | <5.00 | -- | -- | <5.00 |
| AS | -- | -- | -- | -- | <.00100 | -- | <.00200 | -- | -- | <.00100 |
| B | -- | -- | -- | -- | 2.00 | 2.10 | 1.80 | -- | -- | 1.76 |
| BA | -- | -- | -- | -- | 3.00 | -- | 5.00 | -- | -- | <5.00 |
| BE | -- | -- | -- | -- | -- | -- | <.00040 | -- | -- | .00020 |
| BR | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19.0 |
| CA | -- | -- | -- | -- | 290. | 180. | 234. | -- | -- | 211. |
| CD | -- | -- | -- | -- | .00010 | -- | <.00010 | -- | -- | <.00010 |
| CL | -- | -- | -- | -- | 2700. | 1590. | 2100. | -- | -- | 1980. |
| CO | -- | -- | -- | -- | -- | -- | <.0500 | -- | -- | <.0500 |
| COND | -- | -- | -- | -- | 830. | 540. | 640. | -- | -- | 640. |
| CR | -- | -- | -- | -- | <.0500 | -- | <.100 | -- | -- | <.0500 |
| CR(VI) | -- | -- | -- | -- | <.00500 | -- | <.100 | -- | -- | <.00600 |
| CU | -- | -- | -- | -- | .00600 | -- | <.00100 | -- | -- | .00200 |
| FE | -- | -- | -- | -- | <.100 | <.100 | <.100 | -- | -- | <.0500 |
| HARD | -- | -- | -- | -- | 983. | 622. | 780. | -- | -- | 699. |
| HG | -- | -- | -- | -- | <.00020 | -- | <.00020 | -- | -- | <.00020 |
| I | -- | -- | -- | -- | <4.00 | -- | -- | -- | -- | .260 |
| K | -- | -- | -- | -- | 48.0 | 32.0 | 39.0 | -- | -- | 39.0 |
| MG | -- | -- | -- | -- | 63.0 | 42.0 | 48.0 | -- | -- | 42.0 |
| MN | -- | -- | -- | -- | .600 | -- | .420 | -- | -- | .400 |
| MO | -- | -- | -- | -- | <.500 | <.500 | <.500 | -- | -- | <.500 |
| NA | -- | -- | -- | -- | 1320. | 900. | 1150. | -- | -- | 440. |
| NI | -- | -- | -- | -- | <.00500 | -- | <.00500 | -- | -- | .0190 |
| NO3 | -- | -- | -- | -- | 1.00 | .0500 | .0200 | -- | -- | <.0100 |
| PB | -- | -- | -- | -- | .00300 | -- | <.00200 | -- | -- | <.00200 |
| PH | -- | -- | -- | -- | 7.90 | 8.00 | 7.90 | -- | -- | 7.80 |
| SE | -- | -- | -- | -- | <.00100 | -- | <.00200 | -- | -- | <.00100 |
| SIO2 | -- | -- | -- | -- | 8.10 | -- | 10.0 | -- | -- | 10.0 |
| SO4 | -- | -- | -- | -- | 110. | 140. | 290. | -- | -- | 130. |
| SR | -- | -- | -- | -- | 8.00 | -- | 7.90 | -- | -- | 8.50 |
| TDS105 | -- | -- | -- | -- | 5100. | 3400. | 4000. | -- | -- | 3910. |
| TI | -- | -- | -- | -- | -- | -- | <1.00 | -- | -- | <1.00 |
| TOC | -- | -- | -- | -- | 3.40 | 9.00 | 5.00 | -- | -- | 9.00 |
| U | -- | -- | -- | -- | <1.00 | -- | <.00100 | -- | -- | .0700 |
| V | -- | -- | -- | -- | <1.00 | -- | <.500 | -- | -- | <.500 |
| ZN | -- | -- | -- | -- | <.0200 | -- | .0300 | -- | -- | .200 |

(CONT'D) DOMTAR QUARRY GROUNDWATER

LOCATION : G

| TEST | 831812 | 831219 | 840406 | 840614 | 840930 |
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| | | | | SAMPLING DATE | |
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| AL | -- | -- | -- | <1.00 | -- |
| ALKCO3 | -- | -- | -- | <5.00 | -- |
| ALKHCO3 | -- | -- | -- | 227. | -- |
| ALKOH | -- | -- | -- | <5.00 | -- |
| AS | -- | -- | -- | <.00100 | -- |
| B | -- | -- | -- | 1.90 | -- |
| BA | -- | -- | -- | <2.00 | -- |
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| BR | -- | -- | -- | 20.0 | -- |
| CA | -- | -- | -- | 199. | -- |
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| FE | -- | -- | -- | <.0500 | -- |
| HARD | -- | -- | -- | 666. | -- |
| HG | -- | -- | -- | <.00020 | -- |
| I | -- | -- | -- | .330 | -- |
| K | -- | -- | -- | 36.8 | -- |
| MG | -- | -- | -- | 41.0 | -- |
| MN | -- | -- | -- | .340 | -- |
| MO | -- | -- | -- | <.500 | -- |
| NA | -- | -- | -- | 1010. | -- |
| NI | -- | -- | -- | .0250 | -- |
| NO3 | -- | -- | -- | .180 | -- |
| PB | -- | -- | -- | <.00200 | -- |
| PH | -- | -- | -- | 7.80 | -- |
| SE | -- | -- | -- | <.00100 | -- |
| SIO2 | -- | -- | -- | 8.98 | -- |
| SO4 | -- | -- | -- | 132. | -- |
| SR | -- | -- | -- | 6.31 | -- |
| TDS105 | -- | -- | -- | 3540. | -- |
| TI | -- | -- | -- | <1.00 | -- |
| TOC | -- | -- | -- | 5.00 | -- |
| U | -- | -- | -- | .0800 | -- |
| V | -- | -- | -- | .0400 | -- |
| ZN | -- | -- | -- | <.0200 | -- |

# TABLE XVIII

DOMTAR QUARRY GROUNDWATER

LOCATION : JD

| TEST | SAMPLING DATE 800415 | 800512 | 801216 | 810302 | 820331 | 820629 | 820930 | 821203 | 830310 | 830608 |
|---|---|---|---|---|---|---|---|---|---|---|
| AG | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| AL | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ALKCO3 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ALKHCO3 | --- | --- | --- | --- | --- | --- | --- | --- | 21.0 | --- |
| ALKOH | --- | --- | --- | --- | --- | --- | --- | --- | 148. | --- |
| AS | --- | --- | --- | --- | --- | --- | --- | --- | <5.00 | --- |
| B | --- | --- | --- | --- | --- | --- | --- | --- | -- | --- |
| BA | --- | --- | --- | --- | --- | --- | --- | --- | 3.70 | --- |
| BE | --- | --- | --- | --- | --- | --- | --- | --- | -- | --- |
| BR | --- | --- | --- | --- | --- | --- | --- | --- | -- | --- |
| CA | --- | --- | --- | --- | --- | --- | --- | --- | -- | --- |
| CD | --- | --- | --- | --- | --- | --- | --- | --- | 50.0 | --- |
| CL | --- | --- | --- | --- | --- | --- | --- | --- | -- | --- |
| CO | --- | --- | --- | --- | --- | --- | --- | --- | 680. | --- |
| COND | --- | --- | --- | --- | --- | --- | --- | --- | -- | --- |
| CR | --- | --- | --- | --- | --- | --- | --- | --- | 282. | --- |
| CR(VI) | --- | --- | --- | --- | --- | --- | --- | --- | -- | --- |
| CU | --- | --- | --- | --- | --- | --- | --- | --- | -- | --- |
| FE | --- | --- | --- | --- | --- | --- | --- | --- | -- | --- |
| HARD | --- | --- | --- | --- | --- | --- | --- | --- | <.0500 | --- |
| HG | --- | --- | --- | --- | --- | --- | --- | --- | 160. | --- |
| I | --- | --- | --- | --- | --- | --- | --- | --- | -- | --- |
| K | --- | --- | --- | --- | --- | --- | --- | --- | -- | --- |
| MG | --- | --- | --- | --- | --- | --- | --- | --- | 36.0 | --- |
| MN | --- | --- | --- | --- | --- | --- | --- | --- | 13.0 | --- |
| MO | --- | --- | --- | --- | --- | --- | --- | --- | -- | --- |
| NA | --- | --- | --- | --- | --- | --- | --- | --- | <.500 | --- |
| NI | --- | --- | --- | --- | --- | --- | --- | --- | 450. | --- |
| NO3 | --- | --- | --- | --- | --- | --- | --- | --- | -- | --- |
| PB | --- | --- | --- | --- | --- | --- | --- | --- | <6.00 | --- |
| PH | --- | --- | --- | --- | --- | --- | --- | --- | -- | --- |
| SE | --- | --- | --- | --- | --- | --- | --- | --- | 8.30 | --- |
| SIO2 | --- | --- | --- | --- | --- | --- | --- | --- | -- | --- |
| SO4 | --- | --- | --- | --- | --- | --- | --- | --- | -- | --- |
| SR | --- | --- | --- | --- | --- | --- | --- | --- | 220. | --- |
| TDS105 | --- | --- | --- | --- | --- | --- | --- | --- | -- | --- |
| TI | --- | --- | --- | --- | --- | --- | --- | --- | 1680. | --- |
| TOC | --- | --- | --- | --- | --- | --- | --- | --- | -- | --- |
| U | --- | --- | --- | --- | --- | --- | --- | --- | -- | --- |
| V | --- | --- | --- | --- | --- | --- | --- | --- | -- | --- |
| ZN | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

(CONT'D) DOMTAR QUARRY GROUNDWATER

LOCATION : JD

| TEST | 831012 | 831219 | 840406 | 840614 | 840930 |
|---|---|---|---|---|---|
| | SAMPLING DATE | | | | |
| AG | -- | -- | -- | -- | -- |
| AL | -- | -- | -- | -- | -- |
| ALKCO3 | 15.0 | -- | 16.0 | -- | <5.00 |
| ALKHCO3 | 176. | -- | 157. | -- | 201. |
| ALKOH | <5.00 | -- | <5.00 | -- | <5.00 |
| AS | -- | -- | -- | -- | -- |
| B | 2.54 | -- | 1.78 | -- | 2.54 |
| BA | -- | -- | -- | -- | -- |
| BE | -- | -- | -- | -- | -- |
| BR | -- | -- | -- | -- | -- |
| CA | 33.0 | -- | 53.8 | -- | 35.0 |
| CD | -- | -- | -- | -- | -- |
| CL | 400. | -- | 680. | -- | 516. |
| CO | -- | -- | -- | -- | -- |
| COND | 196. | -- | 246. | -- | 221. |
| CR | -- | -- | -- | -- | -- |
| CR(VI) | -- | -- | -- | -- | -- |
| CU | -- | -- | -- | -- | -- |
| FE | <.100 | -- | <.0500 | -- | <.100 |
| HARD | 110. | -- | 180. | -- | 118. |
| HG | -- | -- | -- | -- | -- |
| I | -- | -- | -- | -- | -- |
| K | 28.0 | -- | 25.4 | -- | 23.5 |
| MG | 6.90 | -- | 11.2 | -- | 7.64 |
| MN | -- | -- | -- | -- | -- |
| MO | <.100 | -- | <.500 | -- | <.500 |
| NA | 390. | -- | 423. | -- | 437. |
| NI | -- | -- | -- | -- | -- |
| NO3 | .0500 | -- | <2.00 | -- | 0.04 |
| PB | -- | -- | -- | -- | -- |
| PH | 7.90 | -- | 8.38 | -- | 8.00 |
| SE | -- | -- | -- | -- | -- |
| SIO2 | -- | -- | -- | -- | -- |
| SO4 | 200. | -- | 88.0 | -- | 91.0 |
| SR | -- | -- | -- | -- | -- |
| TDS105 | 1180. | -- | 1400. | -- | 1260. |
| TI | -- | -- | -- | -- | -- |
| TOC | -- | -- | -- | -- | -- |
| U | -- | -- | -- | -- | -- |
| V | -- | -- | -- | -- | -- |
| ZN | -- | -- | -- | -- | -- |

# TABLE XIX

DOMTAR QUARRY GROUNDWATER

LOCATION : JS

| TEST | SAMPLING DATE 800415 | 800512 | 801216 | 810302 | 820331 | 820629 | 820930 | 821203 | 830310 | 830608 |
|---|---|---|---|---|---|---|---|---|---|---|
| AG | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| AL | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ALKCO3 | -- | -- | -- | -- | -- | -- | -- | -- | 16.0 | -- |
| ALKHCO3 | -- | -- | -- | -- | -- | -- | -- | -- | 269. | -- |
| ALKOH | -- | -- | -- | -- | -- | -- | -- | -- | <5.00 | -- |
| AS | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| B | -- | -- | -- | -- | -- | -- | -- | -- | 2.20 | -- |
| BA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| BE | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| BR | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CA | -- | -- | -- | -- | -- | -- | -- | -- | 20.0 | -- |
| CD | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CL | -- | -- | -- | -- | -- | -- | -- | -- | 130. | -- |
| CO | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| COND | -- | -- | -- | -- | -- | -- | -- | -- | 97.0 | -- |
| CR | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CR(VI) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CU | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| FE | -- | -- | -- | -- | -- | -- | -- | -- | <.0500 | -- |
| HARD | -- | -- | -- | -- | -- | -- | -- | -- | 68.0 | -- |
| HG | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| I | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| K | -- | -- | -- | -- | -- | -- | -- | -- | 20.0 | -- |
| MG | -- | -- | -- | -- | -- | -- | -- | -- | 4.40 | -- |
| MH | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MO | -- | -- | -- | -- | -- | -- | -- | -- | <.500 | -- |
| NA | -- | -- | -- | -- | -- | -- | -- | -- | 200. | -- |
| NI | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| NO3 | -- | -- | -- | -- | -- | -- | -- | -- | <.200 | -- |
| PB | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| PH | -- | -- | -- | -- | -- | -- | -- | -- | 8.20 | -- |
| SE | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| SIO2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| SO4 | -- | -- | -- | -- | -- | -- | -- | -- | 24.0 | -- |
| SR | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TDS105 | -- | -- | -- | -- | -- | -- | -- | -- | 570. | -- |
| TI | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TOC | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| V | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ZN | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

(CONT'D) DOMTAR QUARRY GROUNDWATER

LOCATION : JS

| TEST | 831812 | 831219 | 840406 | 840614 | 840930 |
|---|---|---|---|---|---|
| | SAMPLING DATE | | | | |
| AG | -- | -- | -- | -- | -- |
| AL | -- | -- | -- | -- | -- |
| ALKCO3 | 20.0 | -- | 42.0 | -- | 36.0 |
| ALKHCO3 | 240. | -- | 175. | -- | 208. |
| ALKOH | <5.00 | -- | <5.00 | -- | <5.00 |
| AS | -- | -- | -- | -- | -- |
| B | 3.10 | -- | 2.14 | -- | 3.30 |
| BA | -- | -- | -- | -- | -- |
| BE | -- | -- | -- | -- | -- |
| BR | -- | -- | -- | -- | -- |
| CA | 12.4 | -- | 19.9 | -- | 10.7 |
| CD | -- | -- | -- | -- | -- |
| CL | 49.0 | -- | 130. | -- | 32.0 |
| CO | -- | -- | -- | -- | -- |
| COND | 68.0 | -- | 94.0 | -- | 64.0 |
| CR | -- | -- | -- | -- | -- |
| CR(VI) | -- | -- | -- | -- | -- |
| CU | -- | -- | -- | -- | -- |
| FE | <.100 | -- | <.0500 | -- | <.100 |
| HARD | 41.0 | -- | 65.0 | -- | 34.2 |
| HG | -- | -- | -- | -- | -- |
| I | -- | -- | -- | -- | -- |
| K | 13.0 | -- | 14.7 | -- | 10.2 |
| MG | 2.40 | -- | 3.67 | -- | 1.83 |
| MN | -- | -- | -- | -- | -- |
| MO | <.500 | -- | <.500 | -- | <.500 |
| NA | 114. | -- | 171. | -- | 129. |
| NI | -- | -- | -- | -- | -- |
| NO3 | .270 | -- | <1.00 | -- | 0.04 |
| PB | -- | -- | -- | -- | -- |
| PH | 8.40 | -- | 8.60 | -- | 8.50 |
| SE | -- | -- | -- | -- | -- |
| SIO2 | -- | -- | -- | -- | -- |
| SO4 | 25.0 | -- | 69.0 | -- | 37.0 |
| SR | -- | -- | -- | -- | -- |
| TDS105 | 420. | -- | 550. | -- | 405. |
| TI | -- | -- | -- | -- | -- |
| TOC | -- | -- | -- | -- | -- |
| U | -- | -- | -- | -- | -- |
| V | -- | -- | -- | -- | -- |
| ZN | -- | -- | -- | -- | -- |

# TABLE XX

DOMTAR QUARRY GROUNDWATER

LOCATION : SUMP

| TEST | SAMPLING DATE 800415 | 800512 | 801216 | 810302 | 820331 | 820629 | 820930 | 821203 | 830310 | 830608 |
|---|---|---|---|---|---|---|---|---|---|---|
| AG | -- | -- | -- | -- | <.00020 | -- | <.00020 | -- | <.00020 | -- |
| AL | -- | -- | -- | -- | <.500 | -- | <.500 | -- | <1.00 | -- |
| ALKCO3 | -- | -- | -- | -- | 22.0 | <5.00 | 23.0 | <5.00 | <5.00 | <5.00 |
| ALKHCO3 | -- | -- | -- | -- | 174. | 95.0 | 33.0 | 208. | 76.0 | 130. |
| ALKOH | -- | -- | -- | -- | <5.00 | <5.00 | <5.00 | <5.00 | <5.00 | <5.00 |
| AS | -- | -- | -- | -- | <.00100 | -- | .00300 | -- | .00500 | -- |
| B | -- | -- | -- | -- | .700 | 2.50 | <1.00 | 1.70 | 3.40 | 3.06 |
| BA | -- | -- | -- | -- | 1.60 | -- | <.500 | -- | <1.00 | -- |
| BE | -- | -- | -- | -- | -- | -- | <.00020 | -- | -- | -- |
| BR | -- | -- | -- | -- | -- | -- | -- | -- | .840 | -- |
| CA | -- | -- | -- | -- | 125. | 92.0 | 16.0 | 233. | 60.0 | 152. |
| CD | -- | -- | -- | -- | <.00010 | -- | .00010 | -- | .00020 | -- |
| CL | -- | -- | -- | -- | 970. | 444. | 38.0 | 1100. | 62.0 | 530. |
| CO | -- | -- | -- | -- | -- | -- | <.0500 | -- | -- | -- |
| COND | -- | -- | -- | -- | 310. | 256. | 58.0 | 340. | 87.0 | 290. |
| CR | -- | -- | -- | -- | <.0500 | -- | .200 | -- | <.100 | -- |
| CR(VI) | -- | -- | -- | -- | <.00500 | -- | <.100 | -- | .00900 | -- |
| CU | -- | -- | -- | -- | .00800 | -- | .00300 | -- | .00100 | -- |
| FE | -- | -- | -- | -- | <.100 | <.100 | .400 | .300 | <.0500 | .160 |
| HARD | -- | -- | -- | -- | 456. | 352. | 52.0 | 775. | 190. | 478. |
| HG | -- | -- | -- | -- | <.00020 | -- | <.00020 | -- | <.00020 | -- |
| I | -- | -- | -- | -- | <4.00 | -- | -- | -- | .120 | -- |
| K | -- | -- | -- | -- | 28.0 | 34.0 | 13.0 | 63.0 | 16.0 | 48.0 |
| MG | -- | -- | -- | -- | 35.0 | 30.0 | 3.00 | 47.0 | 10.0 | 24.0 |
| MN | -- | -- | -- | -- | .0200 | -- | .0500 | -- | <.0500 | -- |
| MO | -- | -- | -- | -- | <.500 | .500 | <.500 | .300 | -- | .930 |
| NA | -- | -- | -- | -- | 448. | 400. | 100. | 478. | 92.0 | 250. |
| NI | -- | -- | -- | -- | <.00500 | -- | .100 | -- | .00500 | -- |
| NO3 | -- | -- | -- | -- | 2.90 | 46.0 | 8.10 | 27.0 | 13.0 | 17.0 |
| PB | -- | -- | -- | -- | <.00200 | -- | <.00200 | -- | <.00200 | -- |
| PH | -- | -- | -- | -- | 7.80 | 8.10 | 8.00 | 7.70 | 7.40 | 7.80 |
| SE | -- | -- | -- | -- | <.00100 | -- | .00800 | -- | .00800 | -- |
| SIO2 | -- | -- | -- | -- | 3.80 | -- | 2.00 | -- | 2.40 | -- |
| SO4 | -- | -- | -- | -- | 430. | 576. | 120. | 820. | 255. | 700. |
| SR | -- | -- | -- | -- | 2.00 | -- | .280 | -- | .790 | -- |
| TDS105 | -- | -- | -- | -- | 1900. | 1700. | 315. | 2500. | 584. | 1980. |
| TI | -- | -- | -- | -- | -- | -- | <1.00 | -- | <1.00 | -- |
| TOC | -- | -- | -- | -- | 1.50 | 8.00 | 5.00 | -- | 2.80 | -- |
| U | -- | -- | -- | -- | <1.00 | -- | <.00100 | -- | <.0200 | -- |
| V | -- | -- | -- | -- | <1.00 | -- | <.500 | -- | <.500 | -- |
| ZN | -- | -- | -- | -- | .0200 | -- | .200 | -- | 3.30 | -- |

(CONT'D) DOMTAR QUARRY GROUNDWATER

LOCATION : SUMP

| TEST | 831012 | 831219 | 840406 | 840614 | 840930 |
|---|---|---|---|---|---|
| | SAMPLING DATE | | | | |
| AG | <.00020 | -- | -- | <.00020 | <.00020 |
| AL | <.500 | -- | -- | <1.00 | <.500 |
| ALKCO3 | 7.00 | <5.00 | <5.00 | <5.00 | <5.00 |
| ALKHCO3 | 84.0 | 31.9 | 248. | 80.0 | 169. |
| ALKOH | <5.00 | <5.00 | <5.00 | <5.00 | <5.00 |
| AS | <.00100 | -- | -- | .00600 | .00300 |
| B | 2.71 | .920 | 3.40 | 3.70 | 3.76 |
| BA | <1.00 | -- | -- | <2.00 | <1.00 |
| BE | -- | -- | -- | -- | -- |
| BR | 1.10 | -- | -- | 3.80 | 4.50 |
| CA | 11.9 | 30.0 | 172. | 107. | 158. |
| CD | <.00010 | -- | -- | <.00010 | <.00010 |
| CL | 420. | 76.0 | 391. | 338. | 502. |
| CO | -- | -- | -- | -- | -- |
| COND | 218. | 62.0 | 269. | 208. | 301. |
| CR | <.100 | -- | -- | .100 | <.0500 |
| CR(VI) | <.0100 | -- | -- | .0700 | <.0100 |
| CU | <.00100 | -- | -- | .00400 | .00200 |
| FE | <.100 | <.0500 | <.0500 | <.0500 | <.100 |
| HARD | 402. | 100. | 564. | 344. | 556. |
| HG | <.00020 | -- | -- | <.00020 | .00060 |
| I | <.00500 | -- | -- | .140 | .400 |
| K | 38.0 | 14.0 | 48.4 | 34.5 | 53.4 |
| MG | 28.0 | 6.00 | 32.9 | 18.7 | 40.0 |
| MN | <.0500 | -- | -- | .0700 | .260 |
| MO | .500 | <.500 | <.500 | <.500 | <.500 |
| NA | 280. | 74.0 | 348. | 317. | 466. |
| NI | <.00500 | -- | -- | <.00500 | <.00500 |
| NO3 | 12.0 | 33.0 | 12.0 | 3.30 | 24.0 |
| PB | <.00200 | -- | -- | <.00200 | <.00200 |
| PH | 7.70 | 7.10 | 7.80 | 7.90 | 7.90 |
| SE | .00800 | -- | -- | .0100 | .0100 |
| SIO2 | 3.87 | -- | -- | 3.85 | 7.00 |
| SO4 | 378. | 118. | 600. | 466. | 671. |
| SR | 2.74 | -- | -- | 2.86 | 3.60 |
| TDS105 | 1430. | 400. | 1780. | 1370. | 1990. |
| TI | <1.00 | -- | -- | <1.00 | <1.00 |
| TOC | 8.00 | -- | -- | 6.00 | 27.0 |
| U | <.0100 | -- | -- | <.0400 | <.0500 |
| V | <.500 | -- | -- | .0400 | <.500 |
| ZN | .448 | -- | -- | 3.16 | .260 |

## MAJOR ION BALANCES*

(TABLES XXI - XXXIX)

*NOTE: 'EPM' denotes equiavlents per million

## TABLE XXI

### MAJOR ION CHEMISTRY

DOMTAR-G.W
TYPE - WATER
LOCATION 02A

DOMTAR QUARRY GROUNDWATER

| | CATIONS | | | | | | | | | | | | CATION TOTAL | ANION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CA | | | MG | | | NA | | | K | | | | |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| JUNE 29 1982 | 49 | 2.44 | 19 | 18 | 1.48 | 12 | 194 | 8.43 | 66 | 15 | .38 | 3 | 12.74 | 12.94 |
| JUNE 08 1983 | 98 | 4.89 | 59 | 32 | 2.63 | 32 | 16 | .70 | 8 | 2 | .05 | 1 | 8.27 | 8.85 |
| JUNE 14 1984 | 97 | 4.85 | 56 | 36 | 2.95 | 34 | 17 | .74 | 9 | 2 | .04 | 0 | 8.58 | 8.36 |

| | ANIONS | | | | | | | | | | | | ANION TOTAL | CATION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CL | | | SO4 | | | HCO3 | | | CO3 | | | | |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| JUNE 29 1982 | 45 | 1.27 | 10 | 161 | 3.35 | 26 | 476 | 7.80 | 60 | 16 | .52 | 4 | 12.94 | 12.74 |
| JUNE 08 1983 | 17 | .48 | 5 | 85 | 1.77 | 20 | 403 | 6.60 | 75 | <5.00 | .00 | 0 | 8.85 | 8.27 |
| JUNE 14 1984 | 12 | .32 | 4 | 75 | 1.56 | 19 | 395 | 6.48 | 77 | <5.00 | .00 | 0 | 8.36 | 8.58 |

* INDICATES ANION AND CATION TOTALS DON'T LIE WITHIN 10% OF EACH OTHER.

+ INDICATES A MAJOR PARAMETER IS MISSING.

# TABLE XXII

## MAJOR ION CHEMISTRY

DOMTAR-G.W
TYPE - WATER
LOCATION 02B

DOMTAR QUARRY GROUNDWATER

| | CATIONS | | | | | | | | | | | | CATION TOTAL | ANION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CA | | | MG | | | NA | | | K | | | | |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| JUNE 29 1982 | 600 | 29.93 | 23 | 158 | 13.00 | 10 | 2000 | 86.96 | 66 | 60 | 1.53 | 1 | 131.42 | 140.79 |
| JUNE 08 1983 | 240 | 11.97 | 18 | 65 | 5.35 | 8 | 1080 | 46.96 | 72 | 39 | 1.00 | 2 | 65.27 | 68.41 |
| JUNE 14 1984 | 551 | 27.48 | 18 | 143 | 11.77 | 8 | 2520 | 109.57 | 73 | 68 | 1.75 | 1 | 150.57 | 162.67 |

| | ANIONS | | | | | | | | | | | | ANION TOTAL | CATION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CL | | | SO4 | | | HCO3 | | | CO3 | | | | |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| JUNE 29 1982 | 4600 | 129.58 | 92 | 385 | 8.01 | 6 | 195 | 3.20 | 2 | <5.00 | .00 | 0 | 140.79 | 131.42 |
| JUNE 08 1983 | 2010 | 56.62 | 83 | 280 | 5.83 | 9 | 323 | 5.30 | 8 | 20 | .66 | 1 | 68.41 | 65.27 |
| JUNE 14 1984 | 5300 | 149.30 | 92 | 580 | 12.07 | 7 | 79 | 1.30 | 1 | <5.00 | .00 | 0 | 162.67 | 150.57 |

* INDICATES ANION AND CATION TOTALS DON'T LIE WITHIN 10% OF EACH OTHER.

+ INDICATES A MAJOR PARAMETER IS MISSING.

# TABLE XXIII

## MAJOR ION CHEMISTRY

DOMTAR-G.W
TYPE - WATER
LOCATION 03A

DOMTAR QUARRY GROUNDWATER

| | CATIONS | | | | | | | | | | | | CATION TOTAL | ANION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CA | | | MG | | | NA | | | K | | | | |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| APR 15 1980 | 2750 | 137.16 | 30 | 550 | 45.27 | 10 | 6250 | 271.74 | 59 | 150 | 3.84 | 1 | 458.00 | 525.58* |
| DEC 16 1980 | 2850 | 142.14 | 26 | 549 | 45.19 | 8 | 8120 | 353.04 | 65 | 140 | 3.58 | 1 | 543.95 | 489.08* |
| MAR 31 1982 | 960 | 47.88 | 26 | 180 | 14.81 | 8 | 2820 | 122.61 | 65 | 75 | 1.92 | 1 | 187.22 | 630.18* |
| JUNE 29 1982 | 2800 | 139.65 | 25 | 540 | 44.44 | 8 | 8400 | 365.22 | 66 | 160 | 4.09 | 1 | 553.40 | 553.53 |
| SEPT 30 1982 | 2830 | 141.15 | 26 | 560 | 46.09 | 8 | 8300 | 360.87 | 65 | 164 | 4.19 | 1 | 552.30 | 463.43* |
| MAR 10 1983 | 2940 | 146.63 | 27 | 570 | 46.91 | 9 | 8000 | 347.83 | 64 | 160 | 4.09 | 1 | 545.47 | 576.97 |
| JUNE 08 1983 | 2900 | 144.64 | 26 | 560 | 46.09 | 8 | 8500 | 369.57 | 65 | 159 | 4.07 | 1 | 564.36 | 602.27 |
| OCT 12 1983 | 3000 | 149.63 | 26 | 580 | 47.74 | 8 | 8500 | 369.57 | 65 | 170 | 4.35 | 1 | 571.28 | 576.30 |
| APR 06 1984 | 2920 | 145.64 | 27 | 559 | 46.01 | 8 | 7990 | 347.39 | 64 | 158 | 4.04 | 1 | 543.08 | 630.78* |
| JUNE 14 1984 | 2960 | 147.63 | 20 | 552 | 45.43 | 6 | 12500 | 543.48 | 73 | 178 | 4.55 | 1 | 741.09 | 611.32* |
| SEPT 30 1984 | 3440 | 171.57 | 27 | 550 | 45.27 | 7 | 9550 | 415.22 | 65 | 163 | 4.17 | 1 | 636.22 | 605.35 |

| | ANIONS | | | | | | | | | | | | ANION TOTAL | CATION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CL | | | SO4 | | | HCO3 | | | CO3 | | | | |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| APR 15 1980 | 18300 | 515.49 | 98 | 444 | 9.24 | 2 | 52 | .85 | 0 | <5.00 | .00 | 0 | 525.58 | 458.00* |
| DEC 16 1980 | 17000 | 478.87 | 98 | 456 | 9.49 | 2 | 44 | .72 | 0 | <5.00 | .00 | 0 | 489.08 | 543.95* |
| MAR 31 1982 | 22000 | 619.72 | 98 | 470 | 9.78 | 2 | 41 | .68 | 0 | <5.00 | .00 | 0 | 630.18 | 187.22* |
| JUNE 29 1982 | 19100 | 538.03 | 97 | 720 | 14.98 | 3 | 32 | .52 | 0 | <5.00 | .00 | 0 | 553.53 | 553.40 |
| SEPT 30 1982 | 16000 | 450.70 | 97 | 580 | 12.07 | 3 | 40 | .66 | 0 | <5.00 | .00 | 0 | 463.43 | 552.30* |
| MAR 10 1983 | 20100 | 566.20 | 98 | 490 | 10.20 | 2 | 35 | .58 | 0 | <5.00 | .00 | 0 | 576.97 | 545.47 |
| JUNE 08 1983 | 21000 | 591.55 | 98 | 490 | 10.20 | 2 | 32 | .52 | 0 | <5.00 | .00 | 0 | 602.27 | 564.36 |
| OCT 12 1983 | 20000 | 563.38 | 98 | 590 | 12.28 | 2 | 39 | .64 | 0 | <5.00 | .00 | 0 | 576.30 | 571.28 |
| APR 06 1984 | 22000 | 619.72 | 98 | 500 | 10.41 | 2 | 40 | .66 | 0 | <5.00 | .00 | 0 | 630.78 | 543.08* |
| JUNE 14 1984 | 21300 | 600.00 | 98 | 513 | 10.68 | 2 | 39 | .64 | 0 | <5.00 | .00 | 0 | 611.32 | 741.09* |
| SEPT 30 1984 | 21100 | 594.37 | 98 | 495 | 10.30 | 2 | 41 | .68 | 0 | <5.00 | .00 | 0 | 605.35 | 636.22 |

* INDICATES ANION AND CATION TOTALS DON'T LIE WITHIN 10% OF EACH OTHER.

TABLE XXIII (cont'd)

+ INDICATES A MAJOR PARAMETER IS MISSING.

## TABLE XXIV

### MAJOR ION CHEMISTRY

DOMTAR-G.W
TYPE - WATER
LOCATION 03B

DOMTAR QUARRY GROUNDWATER

| | CATIONS | | | | | | | | | | | | CATION TOTAL | ANION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CA | | | MG | | | NA | | | K | | | | |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| APR 15 1980 | 1000 | 49.88 | 25 | 200 | 16.46 | 8 | 3000 | 130.43 | 66 | 75 | 1.92 | 1 | 198.69 | 199.06 |
| DEC 16 1980 | 1410 | 70.32 | 25 | 282 | 23.21 | 8 | 4220 | 183.48 | 65 | 122 | 3.12 | 1 | 280.13 | 257.21 |
| MAR 31 1982 | 965 | 48.13 | 26 | 180 | 14.81 | 8 | 2850 | 123.91 | 66 | 70 | 1.79 | 1 | 188.65 | 204.78 |
| JUNE 29 1982 | 866 | 43.19 | 24 | 170 | 13.99 | 8 | 2760 | 120.00 | 67 | 76 | 1.94 | 1 | 179.13 | 210.58* |
| SEPT 30 1982 | 1060 | 52.87 | 24 | 190 | 15.64 | 7 | 3350 | 145.65 | 67 | 84 | 2.15 | 1 | 216.31 | 220.70 |
| MAR 10 1983 | 960 | 47.88 | 28 | 170 | 13.99 | 8 | 2500 | 108.70 | 63 | 79 | 2.02 | 1 | 172.59 | 193.61* |
| JUNE 08 1983 | 960 | 47.88 | 23 | 160 | 13.17 | 6 | 3400 | 147.83 | 70 | 80 | 2.05 | 1 | 210.92 | 202.19 |
| OCT 12 1983 | 1100 | 54.86 | 25 | 200 | 16.46 | 8 | 3300 | 143.48 | 66 | 86 | 2.20 | 1 | 217.00 | 208.06 |
| APR 06 1984 | 679 | 33.87 | 24 | 130 | 10.70 | 8 | 2130 | 92.61 | 67 | 62 | 1.59 | 1 | 138.76 | 142.85 |
| JUNE 14 1984 | 61 | 3.06 | 14 | 19 | 1.56 | 7 | 392 | 17.04 | 77 | 18 | .46 | 2 | 22.12 | 18.66* |
| SEPT 30 1984 | 746 | 37.21 | 24 | 177 | 14.57 | 9 | 2370 | 103.04 | 66 | 88 | 2.24 | 1 | 157.06 | 177.79* |

| | ANIONS | | | | | | | | | | | | ANION TOTAL | CATION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CL | | | SO4 | | | HCO3 | | | CO3 | | | | |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| APR 15 1980 | 6400 | 180.28 | 91 | 814 | 16.94 | 9 | 112 | 1.84 | 1 | <5.00 | .00 | 0 | 199.06 | 198.69 |
| DEC 16 1980 | 8400 | 236.62 | 92 | 930 | 19.35 | 8 | 76 | 1.24 | 0 | <5.00 | .00 | 0 | 257.21 | 280.13 |
| MAR 31 1982 | 6700 | 188.73 | 92 | 670 | 13.94 | 7 | 102 | 1.68 | 1 | 13 | .42 | 0 | 204.78 | 188.65 |
| JUNE 29 1982 | 6750 | 190.14 | 90 | 890 | 18.52 | 9 | 117 | 1.92 | 1 | <5.00 | .00 | 0 | 210.58 | 179.13* |
| SEPT 30 1982 | 7100 | 200.00 | 91 | 915 | 19.04 | 9 | 101 | 1.66 | 1 | <5.00 | .00 | 0 | 220.70 | 216.31 |
| MAR 10 1983 | 6200 | 174.65 | 90 | 820 | 17.07 | 9 | 116 | 1.90 | 1 | <5.00 | .00 | 0 | 193.61 | 172.59* |
| JUNE 08 1983 | 6500 | 183.10 | 91 | 830 | 17.27 | 9 | 111 | 1.82 | 1 | <5.00 | .00 | 0 | 202.19 | 210.92 |
| OCT 12 1983 | 6700 | 188.73 | 91 | 850 | 17.69 | 9 | 100 | 1.64 | 1 | <5.00 | .00 | 0 | 208.06 | 217.00 |
| APR 06 1984 | 4500 | 126.76 | 89 | 600 | 12.49 | 9 | 188 | 3.08 | 2 | 16 | .52 | 0 | 142.85 | 138.76 |
| JUNE 14 1984 | 280 | 7.89 | 42 | 167 | 3.48 | 19 | 425 | 6.96 | 37 | 10 | .34 | 2 | 18.66 | 22.12* |
| SEPT 30 1984 | 5710 | 160.85 | 90 | 676 | 14.07 | 8 | 176 | 2.88 | 2 | <5.00 | .00 | 0 | 177.79 | 157.06* |

* INDICATES ANION AND CATION TOTALS DON'T LIE WITHIN 10% OF EACH OTHER.

TABLE XXIV (cont'd)

+ INDICATES A MAJOR PARAMETER IS MISSING.

## TABLE XXV

### MAJOR ION CHEMISTRY

DOMTAR-G.W
TYPE - WATER
LOCATION 03C

### DOMTAR QUARRY GROUNDWATER

| | CATIONS | | | | | | | | | | | | CATION TOTAL | ANION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CA | | | MG | | | NA | | | K | | | | |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| APR 15 1980 | 2250 | 112.22 | 32 | 500 | 41.15 | 12 | 4500 | 195.65 | 56 | 65 | 1.66 | 0 | 350.69 | 172.04* |
| MAY 12 1980 | 4950 | 246.88 | 30 | 877 | 72.18 | 9 | 11400 | 495.65 | 60 | 250 | 6.39 | 1 | 821.11 | 764.13 |
| DEC 16 1980 | 4560 | 227.43 | 32 | 774 | 63.70 | 9 | 9710 | 422.17 | 59 | 187 | 4.78 | 1 | 718.09 | 693.45 |
| MAR 31 1982 | 1085 | 54.11 | 29 | 220 | 18.11 | 10 | 2600 | 113.04 | 61 | 61 | 1.56 | 1 | 186.83 | 214.54* |
| JUNE 29 1982 | 4160 | 207.48 | 29 | 780 | 64.20 | 9 | 10000 | 434.78 | 61 | 192 | 4.91 | 1 | 711.37 | 720.55 |
| SEPT 30 1982 | 3700 | 184.54 | 28 | 720 | 59.26 | 9 | 9200 | 400.00 | 62 | 188 | 4.81 | 1 | 648.61 | 722.12* |
| MAR 10 1983 | 63 | 3.14 | 17 | 17 | 1.40 | 8 | 300 | 13.04 | 72 | 18 | .46 | 3 | 18.05 | 20.47* |
| JUNE 08 1983 | 92 | 4.59 | 14 | 18 | 1.48 | 5 | 590 | 25.65 | 79 | 25 | .64 | 2 | 32.36 | 34.92 |
| OCT 12 1983 | 109 | 5.44 | 16 | 28 | 2.30 | 7 | 600 | 26.09 | 76 | 26 | .66 | 2 | 34.49 | 34.70 |
| APR 06 1984 | 112 | 5.59 | 18 | 24 | 1.95 | 6 | 536 | 23.30 | 74 | 24 | .61 | 2 | 31.45 | 32.69 |
| JUNE 14 1984 | 129 | 6.43 | 16 | 30 | 2.46 | 6 | 719 | 31.26 | 77 | 26 | .66 | 2 | 40.82 | 38.78 |
| SEPT 30 1984 | 209 | 10.42 | 19 | 44 | 3.62 | 7 | 924 | 40.17 | 73 | 33 | .85 | 2 | 55.07 | 53.60 |

| | ANIONS | | | | | | | | | | | | ANION TOTAL | CATION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CL | | | SO4 | | | HCO3 | | | CO3 | | | | |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| APR 15 1980 | 5800 | 163.38 | 95 | 320 | 6.66 | 4 | 122 | 2.00 | 1 | <5.00 | .00 | 0 | 172.04 | 350.69* |
| MAY 12 1980 | 26400 | 743.66 | 97 | 920 | 19.15 | 3 | 81 | 1.32 | 0 | <5.00 | .00 | 0 | 764.13 | 821.11 |
| DEC 16 1980 | 24000 | 676.06 | 97 | 730 | 15.19 | 2 | 134 | 2.20 | 0 | <5.00 | .00 | 0 | 693.45 | 718.09 |
| MAR 31 1982 | 7300 | 205.63 | 96 | 40 | .83 | 0 | 493 | 8.08 | 4 | <5.00 | .00 | 0 | 214.54 | 186.83* |
| JUNE 29 1982 | 25000 | 704.23 | 98 | 650 | 13.53 | 2 | 171 | 2.80 | 0 | <5.00 | .00 | 0 | 720.55 | 711.37 |
| SEPT 30 1982 | 25000 | 704.23 | 98 | 730 | 15.19 | 2 | 165 | 2.70 | 0 | <5.00 | .00 | 0 | 722.12 | 648.61* |
| MAR 10 1983 | 400 | 11.27 | 55 | 107 | 2.23 | 11 | 406 | 6.66 | 33 | 10 | .32 | 2 | 20.47 | 18.05* |
| JUNE 08 1983 | 890 | 25.07 | 72 | 205 | 4.27 | 12 | 322 | 5.28 | 15 | 9 | .30 | 1 | 34.92 | 32.36 |
| OCT 12 1983 | 900 | 25.35 | 73 | 180 | 3.75 | 11 | 314 | 5.14 | 15 | 14 | .46 | 1 | 34.70 | 34.49 |
| APR 06 1984 | 790 | 22.25 | 68 | 220 | 4.58 | 14 | 320 | 5.24 | 16 | 19 | .62 | 2 | 32.69 | 31.45 |
| JUNE 14 1984 | 980 | 27.61 | 71 | 270 | 5.62 | 14 | 339 | 5.56 | 14 | <5.00 | .00 | 0 | 38.78 | 40.82 |
| SEPT 30 1984 | 1520 | 42.82 | 80 | 344 | 7.16 | 13 | 221 | 3.62 | 7 | <5.00 | .00 | 0 | 53.60 | 55.07 |

TABLE XXV (cont'd)

* INDICATES ANION AND CATION TOTALS DON'T LIE WITHIN 10% OF EACH OTHER.

+ INDICATES A MAJOR PARAMETER IS MISSING.

## TABLE XXVI

### MAJOR ION CHEMISTRY

DOMTAR-G.W
TYPE - WATER
LOCATION 05A

DOMTAR QUARRY GROUNDWATER

| | CATIONS | | | | | | | | | | | | CATION TOTAL | ANION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CA | | | MG | | | NA | | | K | | | | |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| JUNE 08 1983 | 48 | 2.39 | 17 | 22 | 1.81 | 13 | 216 | 9.39 | 65 | 33 | .84 | 6 | 14.44 | 15.95 |
| JUNE 14 1984 | 60 | 3.00 | 16 | 23 | 1.92 | 10 | 316 | 13.74 | 71 | 25 | .63 | 3 | 19.28 | 16.54* |

| | ANIONS | | | | | | | | | | | | ANION TOTAL | CATION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CL | | | SO4 | | | HCO3 | | | CO3 | | | | |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| JUNE 08 1983 | 180 | 5.07 | 32 | 200 | 4.16 | 26 | 373 | 6.12 | 38 | 18 | .60 | 4 | 15.95 | 14.44 |
| JUNE 14 1984 | 200 | 5.63 | 34 | 206 | 4.29 | 26 | 375 | 6.14 | 37 | 14 | .48 | 3 | 16.54 | 19.28* |

* INDICATES ANION AND CATION TOTALS DON'T LIE WITHIN 10% OF EACH OTHER.

+ INDICATES A MAJOR PARAMETER IS MISSING.

## TABLE XXVII

### MAJOR ION CHEMISTRY

DOMTAR-G.W
TYPE - WATER
LOCATION 05B

DOMTAR QUARRY GROUNDWATER

CATIONS

| DATE | CA | | | MG | | | NA | | | K | | | CATION TOTAL | ANION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| JUNE 08 1983 | 1000 | 49.88 | 22 | 260 | 21.40 | 9 | 3600 | 156.52 | 68 | 124 | 3.17 | 1 | 230.97 | 225.63 |
| JUNE 14 1984 | 1000 | 49.88 | 20 | 334 | 27.49 | 11 | 4000 | 173.91 | 68 | 112 | 2.86 | 1 | 254.14 | 245.13 |

ANIONS

| DATE | CL | | | SO4 | | | HCO3 | | | CO3 | | | ANION TOTAL | CATION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| JUNE 08 1983 | 7410 | 208.73 | 93 | 760 | 15.82 | 7 | 66 | 1.08 | 0 | <5.00 | .00 | 0 | 225.63 | 230.97 |
| JUNE 14 1984 | 8000 | 225.35 | 92 | 906 | 18.86 | 8 | 56 | .92 | 0 | <5.00 | .00 | 0 | 245.13 | 254.14 |

* INDICATES ANION AND CATION TOTALS DON'T LIE WITHIN 10% OF EACH OTHER.

+ INDICATES A MAJOR PARAMETER IS MISSING.

## TABLE XXVIII

### MAJOR ION CHEMISTRY

DOMTAR-G.W
TYPE - WATER
LOCATION 08

DOMTAR QUARRY GROUNDWATER

CATIONS

| DATE | CA MG/L | CA EPM | CA %EPM | MG MG/L | MG EPM | MG %EPM | NA MG/L | NA EPM | NA %EPM | K MG/L | K EPM | K %EPM | CATION TOTAL EPM | ANION TOTAL EPM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| APR 15 1980 | 230 | 11.47 | 16 | 60 | 4.94 | 7 | 1250 | 54.35 | 75 | 50 | 1.28 | 2 | 72.04 | 84.72* |
| DEC 16 1980 | 247 | 12.32 | 13 | 61 | 5.02 | 5 | 1700 | 73.91 | 80 | 51 | 1.30 | 1 | 92.56 | 93.01 |
| MAR 31 1982 | 250 | 12.47 | 15 | 37 | 3.05 | 4 | 1475 | 64.13 | 79 | 50 | 1.28 | 2 | 80.92 | 87.62 |
| JUNE 29 1982 | 192 | 9.58 | 15 | 48 | 3.95 | 6 | 1160 | 50.43 | 78 | 42 | 1.07 | 2 | 65.04 | 77.01* |
| SEPT 30 1982 | 200 | 9.98 | 14 | 50 | 4.12 | 6 | 1280 | 55.65 | 79 | 45 | 1.15 | 2 | 70.89 | 80.43* |
| JUNE 08 1983 | 194 | 9.68 | 14 | 44 | 3.62 | 5 | 1300 | 56.52 | 80 | 46 | 1.18 | 2 | 71.00 | 75.32 |
| JUNE 14 1984 | 76 | 3.77 | 32 | 47 | 3.84 | 33 | 86 | 3.73 | 32 | 12 | .30 | 3 | 11.65 | 15.16* |

ANIONS

| DATE | CL MG/L | CL EPM | CL %EPM | SO4 MG/L | SO4 EPM | SO4 %EPM | HCO3 MG/L | HCO3 EPM | HCO3 %EPM | CO3 MG/L | CO3 EPM | CO3 %EPM | ANION TOTAL EPM | CATION TOTAL EPM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| APR 15 1980 | 2800 | 78.87 | 93 | 184 | 3.83 | 5 | 123 | 2.02 | 2 | <5.00 | .00 | 0 | 84.72 | 72.04* |
| DEC 16 1980 | 3100 | 87.32 | 94 | 176 | 3.66 | 4 | 123 | 2.02 | 2 | <5.00 | .00 | 0 | 93.01 | 92.56 |
| MAR 31 1982 | 2900 | 81.69 | 93 | 140 | 2.91 | 3 | 165 | 2.70 | 3 | 10 | .32 | 0 | 87.62 | 80.92 |
| JUNE 29 1982 | 2500 | 70.42 | 91 | 160 | 3.33 | 4 | 179 | 2.94 | 4 | 10 | .32 | 0 | 77.01 | 65.04* |
| SEPT 30 1982 | 2550 | 71.83 | 89 | 250 | 5.20 | 6 | 189 | 3.10 | 4 | 9 | .30 | 0 | 80.43 | 70.89* |
| JUNE 08 1983 | 2410 | 67.89 | 90 | 170 | 3.54 | 5 | 207 | 3.40 | 5 | 15 | .50 | 1 | 75.32 | 71.00 |
| JUNE 14 1984 | 64 | 1.80 | 12 | 170 | 3.54 | 23 | 566 | 9.28 | 61 | 16 | .54 | 4 | 15.16 | 11.65* |

* INDICATES ANION AND CATION TOTALS DON'T LIE WITHIN 10% OF EACH OTHER.

+ INDICATES A MAJOR PARAMETER IS MISSING.

# TABLE XXIX

## MAJOR ION CHEMISTRY

DOMTAR-G.W
TYPE - WATER
LOCATION DD

DOMTAR QUARRY GROUNDWATER

CATIONS

| DATE | CA | | | MG | | | NA | | | K | | | CATION TOTAL | ANION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| MAR 31 1982 | 11 | .55 | 1 | 6 | .49 | 1 | 950 | 41.30 | 91 | 120 | 3.07 | 7 | 45.42 | 53.45* |
| JUNE 29 1982 | 52 | 2.59 | 6 | 16 | 1.32 | 3 | 860 | 37.39 | 89 | 28 | .72 | 2 | 42.02 | 44.49 |
| MAR 10 1983 | 90 | 4.49 | 9 | 21 | 1.73 | 4 | 960 | 41.74 | 86 | 33 | .84 | 2 | 48.80 | 51.29 |
| JUNE 08 1983 | 57 | 2.84 | 6 | 15 | 1.23 | 3 | 900 | 39.13 | 89 | 30 | .77 | 2 | 43.98 | 45.28 |
| OCT 12 1983 | 91 | 4.54 | 9 | 20 | 1.65 | 3 | 1060 | 46.09 | 87 | 30 | .77 | 1 | 53.04 | 51.82 |
| APR 06 1984 | 75 | 3.76 | 9 | 16 | 1.30 | 3 | 866 | 37.65 | 87 | 26 | .67 | 2 | 43.38 | 45.61 |
| JUNE 14 1984 | 61 | 3.03 | 7 | 13 | 1.09 | 3 | 867 | 37.70 | 89 | 23 | .59 | 1 | 42.41 | 50.13* |
| SEPT 30 1984 | 75 | 3.74 | 8 | 17 | 1.41 | 3 | 1000 | 43.48 | 88 | 28 | .72 | 1 | 49.34 | 50.94 |

ANIONS

| DATE | CL | | | SO4 | | | HCO3 | | | CO3 | | | ANION TOTAL | CATION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| MAR 31 1982 | 1500 | 42.25 | 79 | 460 | 9.57 | 18 | <5.00 | .00 | 0 | 49 | 1.62 | 3 | 53.45 | 45.42* |
| JUNE 29 1982 | 1170 | 32.96 | 74 | 335 | 6.97 | 16 | 256 | 4.20 | 9 | 11 | .36 | 1 | 44.49 | 42.02 |
| MAR 10 1983 | 1300 | 36.62 | 71 | 530 | 11.03 | 22 | 199 | 3.26 | 6 | 11 | .38 | 1 | 51.29 | 48.80 |
| JUNE 08 1983 | 1200 | 33.80 | 75 | 320 | 6.66 | 15 | 294 | 4.82 | 11 | <5.00 | .00 | 0 | 45.28 | 43.98 |
| OCT 12 1983 | 1300 | 36.62 | 71 | 620 | 12.90 | 25 | 128 | 2.10 | 4 | 6 | .20 | 0 | 51.82 | 53.04 |
| APR 06 1984 | 1200 | 33.80 | 74 | 360 | 7.49 | 16 | 243 | 3.98 | 9 | 10 | .34 | 1 | 45.61 | 43.38 |
| JUNE 14 1984 | 1180 | 33.24 | 66 | 340 | 7.08 | 14 | 566 | 9.28 | 19 | 16 | .54 | 1 | 50.13 | 42.41* |
| SEPT 30 1984 | 1280 | 36.06 | 71 | 600 | 12.49 | 25 | 146 | 2.40 | 5 | <5.00 | .00 | 0 | 50.94 | 49.34 |

* INDICATES ANION AND CATION TOTALS DON'T LIE WITHIN 10% OF EACH OTHER.

+ INDICATES A MAJOR PARAMETER IS MISSING.

## TABLE XXX

### MAJOR ION CHEMISTRY

DOMTAR-G.W
TYPE - WATER
LOCATION DS

DOMTAR QUARRY GROUNDWATER

| | CATIONS | | | | | | | | | | | | CATION TOTAL | ANION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CA | | | MG | | | NA | | | K | | | | |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| MAR 31 1982 | 145 | 7.23 | 27 | 110 | 9.05 | 34 | 234 | 10.17 | 38 | 13 | .33 | 1 | 26.79 | 37.49* |
| JUNE 29 1982 | 144 | 7.18 | 25 | 110 | 9.05 | 32 | 272 | 11.83 | 42 | 15 | .38 | 1 | 28.45 | 24.63* |
| MAR 10 1983 | 152 | 7.58 | 27 | 117 | 9.63 | 34 | 240 | 10.43 | 37 | 14 | .36 | 1 | 28.00 | 29.65 |
| JUNE 08 1983 | 123 | 6.13 | 23 | 105 | 8.64 | 32 | 270 | 11.74 | 44 | 14 | .36 | 1 | 26.87 | 28.40 |
| OCT 12 1983 | 166 | 8.28 | 26 | 118 | 9.71 | 31 | 300 | 13.04 | 41 | 17 | .43 | 1 | 31.47 | 29.10 |
| APR 06 1984 | 143 | 7.13 | 27 | 103 | 8.48 | 32 | 251 | 10.91 | 41 | 13 | .33 | 1 | 26.85 | 27.08 |
| JUNE 14 1984 | 134 | 6.68 | 23 | 100 | 8.23 | 28 | 326 | 14.17 | 48 | 13 | .33 | 1 | 29.42 | 26.43* |
| SEPT 30 1984 | 146 | 7.28 | 25 | 110 | 9.05 | 31 | 295 | 12.83 | 43 | 15 | .39 | 1 | 29.55 | 24.34* |

| | ANIONS | | | | | | | | | | | | ANION TOTAL | CATION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CL | | | SO4 | | | HCO3 | | | CO3 | | | | |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| MAR 31 1982 | 920 | 25.92 | 69 | 150 | 3.12 | 8 | 483 | 7.92 | 21 | 16 | .54 | 1 | 37.49 | 26.79* |
| JUNE 29 1982 | 595 | 16.76 | 68 | 165 | 3.43 | 14 | 232 | 3.80 | 15 | 19 | .64 | 3 | 24.63 | 28.45* |
| MAR 10 1983 | 610 | 17.18 | 58 | 180 | 3.75 | 13 | 499 | 8.18 | 28 | 16 | .54 | 2 | 29.65 | 28.00 |
| JUNE 08 1983 | 570 | 16.06 | 57 | 180 | 3.75 | 13 | 483 | 7.92 | 28 | 20 | .68 | 2 | 28.40 | 26.87 |
| OCT 12 1983 | 590 | 16.62 | 57 | 170 | 3.54 | 12 | 505 | 8.28 | 28 | 20 | .66 | 2 | 29.10 | 31.47 |
| APR 06 1984 | 530 | 14.93 | 55 | 160 | 3.33 | 12 | 506 | 8.30 | 31 | 16 | .52 | 2 | 27.08 | 26.85 |
| JUNE 14 1984 | 520 | 14.65 | 55 | 155 | 3.23 | 12 | 522 | 8.56 | 32 | <5.00 | .00 | 0 | 26.43 | 29.42* |
| SEPT 30 1984 | 549 | 15.46 | 64 | 149 | 3.10 | 13 | 353 | 5.78 | 24 | <5.00 | .00 | 0 | 24.34 | 29.55* |

* INDICATES ANION AND CATION TOTALS DON'T LIE WITHIN 10% OF EACH OTHER.

+ INDICATES A MAJOR PARAMETER IS MISSING.

# TABLE XXXI

## MAJOR ION CHEMISTRY

DOMTAR-G.W
TYPE - WATER
LOCATION ED2

DOMTAR QUARRY GROUNDWATER

### CATIONS

| DATE | CA | | | MG | | | NA | | | K | | | CATION TOTAL | ANION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| MAR 31 1982 | 116 | 5.79 | 8 | 37 | 3.05 | 4 | 1375 | 59.78 | 86 | 51 | 1.30 | 2 | 69.92 | 78.89* |
| JUNE 29 1982 | 132 | 6.58 | 9 | 38 | 3.13 | 4 | 1380 | 60.00 | 85 | 40 | 1.02 | 1 | 70.73 | 72.34 |
| SEPT 30 1982 | 152 | 7.58 | 10 | 37 | 3.05 | 4 | 1450 | 63.04 | 84 | 46 | 1.18 | 2 | 74.85 | 79.73 |
| MAR 10 1983 | 167 | 8.33 | 12 | 41 | 3.37 | 5 | 1360 | 59.13 | 82 | 42 | 1.07 | 1 | 71.91 | 78.75 |
| JUNE 08 1983 | 161 | 8.03 | 11 | 35 | 2.88 | 4 | 1460 | 63.48 | 84 | 44 | 1.13 | 1 | 75.51 | 80.68 |
| OCT 12 1983 | 173 | 8.63 | 11 | 41 | 3.37 | 4 | 1580 | 68.70 | 84 | 46 | 1.18 | 1 | 81.88 | 75.95 |
| APR 06 1984 | 188 | 9.38 | 11 | 41 | 3.39 | 4 | 1640 | 71.30 | 84 | 43 | 1.09 | 1 | 85.16 | 80.71 |
| JUNE 14 1984 | 182 | 9.08 | 11 | 43 | 3.56 | 4 | 1520 | 66.09 | 83 | 42 | 1.08 | 1 | 79.80 | 78.73 |
| SEPT 30 1984 | 167 | 8.33 | 10 | 43 | 3.54 | 4 | 1540 | 66.96 | 84 | 42 | 1.08 | 1 | 79.91 | 80.61 |

### ANIONS

| DATE | CL | | | SO4 | | | HCO3 | | | CO3 | | | ANION TOTAL | CATION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| MAR 31 1982 | 2600 | 73.24 | 93 | 210 | 4.37 | 6 | 62 | 1.02 | 1 | 8 | .26 | 0 | 78.89 | 69.92* |
| JUNE 29 1982 | 2320 | 65.35 | 90 | 236 | 4.91 | 7 | 111 | 1.82 | 3 | 8 | .26 | 0 | 72.34 | 70.73 |
| SEPT 30 1982 | 2550 | 71.83 | 90 | 265 | 5.52 | 7 | 121 | 1.98 | 2 | 12 | .40 | 1 | 79.73 | 74.85 |
| MAR 10 1983 | 2500 | 70.42 | 89 | 275 | 5.72 | 7 | 138 | 2.26 | 3 | 10 | .34 | 0 | 78.75 | 71.91 |
| JUNE 08 1983 | 2570 | 72.39 | 90 | 275 | 5.72 | 7 | 139 | 2.28 | 3 | 8 | .28 | 0 | 80.68 | 75.51 |
| OCT 12 1983 | 2400 | 67.61 | 89 | 280 | 5.83 | 8 | 140 | 2.30 | 3 | 7 | .22 | 0 | 75.95 | 81.88 |
| APR 06 1984 | 2600 | 73.24 | 91 | 240 | 4.99 | 6 | 115 | 1.88 | 2 | 18 | .60 | 1 | 80.71 | 85.16 |
| JUNE 14 1984 | 2500 | 70.42 | 89 | 276 | 5.74 | 7 | 156 | 2.56 | 3 | <5.00 | .00 | 0 | 78.73 | 79.80 |
| SEPT 30 1984 | 2620 | 73.80 | 92 | 203 | 4.22 | 5 | 157 | 2.58 | 3 | <5.00 | .00 | 0 | 80.61 | 79.91 |

* INDICATES ANION AND CATION TOTALS DON'T LIE WITHIN 10% OF EACH OTHER.

+ INDICATES A MAJOR PARAMETER IS MISSING.

## TABLE XXXII

### MAJOR ION CHEMISTRY

DOMTAR-G.W
TYPE - WATER
LOCATION EI

DOMTAR QUARRY GROUNDWATER

CATIONS

| DATE | CA | | | MG | | | NA | | | K | | | CATION TOTAL | ANION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| MAR 02 1981 | 27 | 1.35 | 9 | 7 | .53 | 4 | 290 | 12.61 | 84 | 21 | .54 | 4 | 15.03 | 15.00 |
| JUNE 29 1982 | 70 | 3.49 | 16 | 18 | 1.48 | 7 | 378 | 16.43 | 75 | 21 | .54 | 2 | 21.94 | 22.72 |
| MAR 10 1983 | 126 | 6.28 | 72 | 18 | 1.48 | 17 | 20 | .87 | 10 | 4 | .09 | 1 | 8.72 | 8.78 |
| JUNE 08 1983 | 124 | 6.18 | 74 | 15 | 1.23 | 15 | 20 | .87 | 10 | 3 | .07 | 1 | 8.36 | 8.87 |
| OCT 12 1983 | 108 | 5.39 | 71 | 14 | 1.15 | 15 | 22 | .96 | 13 | 4 | .09 | 1 | 7.59 | 7.13 |
| APR 06 1984 | 305 | 15.21 | 32 | 53 | 4.35 | 9 | 636 | 27.65 | 58 | 28 | .72 | 2 | 47.94 | 45.62 |
| JUNE 14 1984 | 85 | 4.26 | 68 | 11 | .91 | 14 | 25 | 1.07 | 17 | 2 | .04 | 1 | 6.27 | 5.67 |
| SEPT 30 1984 | 128 | 6.38 | 72 | 16 | 1.28 | 14 | 26 | 1.13 | 13 | 3 | .07 | 1 | 8.85 | 7.55* |

ANIONS

| DATE | CL | | | SO4 | | | HCO3 | | | CO3 | | | ANION TOTAL | CATION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| MAR 02 1981 | 390 | 10.99 | 73 | 120 | 2.50 | 17 | 79 | 1.30 | 9 | 7 | .22 | 1 | 15.00 | 15.03 |
| JUNE 29 1982 | 655 | 18.45 | 81 | 132 | 2.75 | 12 | 83 | 1.36 | 6 | 5 | .16 | 1 | 22.72 | 21.94 |
| MAR 10 1983 | 54 | 1.52 | 17 | 29 | .60 | 7 | 372 | 6.10 | 69 | 17 | .56 | 6 | 8.78 | 8.72 |
| JUNE 08 1983 | 14 | .39 | 4 | 20 | .42 | 5 | 492 | 8.06 | 91 | <5.00 | .00 | 0 | 8.87 | 8.36 |
| OCT 12 1983 | 16 | .45 | 6 | 56 | 1.17 | 16 | 337 | 5.52 | 77 | <5.00 | .00 | 0 | 7.13 | 7.59 |
| APR 06 1984 | 1400 | 39.44 | 86 | 180 | 3.75 | 8 | 116 | 1.90 | 4 | 16 | .54 | 1 | 45.62 | 47.94 |
| JUNE 14 1984 | 29 | .82 | 14 | 44 | .92 | 16 | 240 | 3.94 | 69 | <5.00 | .00 | 0 | 5.67 | 6.27 |
| SEPT 30 1984 | 42 | 1.18 | 16 | 60 | 1.25 | 17 | 312 | 5.12 | 68 | <5.00 | .00 | 0 | 7.55 | 8.85* |

* INDICATES ANION AND CATION TOTALS DON'T LIE WITHIN 10% OF EACH OTHER.

+ INDICATES A MAJOR PARAMETER IS MISSING.

# TABLE XXXIII

## MAJOR ION CHEMISTRY

DOMTAR-G.W
TYPE - WATER
LOCATION ES

DOMTAR QUARRY GROUNDWATER

| | CATIONS | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CA | | | MG | | | NA | | | K | | | CATION TOTAL | ANION TOTAL |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| MAR 02 1981 | 140 | 6.98 | 39 | 55 | 4.53 | 25 | 137 | 5.96 | 34 | 12 | .29 | 2 | 17.76 | 16.48 |
| JUNE 29 1982 | 132 | 6.58 | 38 | 54 | 4.44 | 26 | 138 | 6.00 | 35 | 7 | .18 | 1 | 17.21 | 17.38 |
| SEPT 30 1982 | 138 | 6.88 | 41 | 53 | 4.36 | 26 | 122 | 5.30 | 32 | 8 | .20 | 1 | 16.75 | 16.34 |
| MAR 10 1983 | 136 | 6.78 | 41 | 54 | 4.44 | 27 | 116 | 5.04 | 31 | 6 | .16 | 1 | 16.43 | 16.96 |
| JUNE 08 1983 | 105 | 5.24 | 39 | 39 | 3.21 | 24 | 109 | 4.74 | 36 | 6 | .14 | 1 | 13.33 | 14.46 |
| OCT 12 1983 | 192 | 9.58 | 39 | 77 | 6.34 | 26 | 190 | 8.26 | 34 | 10 | .24 | 1 | 24.42 | 20.16* |
| APR 06 1984 | 131 | 6.53 | 41 | 48 | 3.98 | 25 | 120 | 5.22 | 33 | 6 | .16 | 1 | 15.89 | 15.68 |
| JUNE 14 1984 | 110 | 5.49 | 40 | 42 | 3.46 | 25 | 106 | 4.61 | 34 | 5 | .13 | 1 | 13.68 | 14.20 |
| SEPT 30 1984 | 150 | 7.48 | 41 | 60 | 4.95 | 27 | 131 | 5.70 | 31 | 9 | .23 | 1 | 18.36 | 14.05* |

| | ANIONS | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CL | | | SO4 | | | HCO3 | | | CO3 | | | ANION TOTAL | CATION TOTAL |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| MAR 02 1981 | 210 | 5.92 | 36 | 210 | 4.37 | 27 | 378 | 6.20 | 38 | <5.00 | .00 | 0 | 16.48 | 17.76 |
| JUNE 29 1982 | 213 | 6.00 | 35 | 220 | 4.58 | 26 | 415 | 6.80 | 39 | <5.00 | .00 | 0 | 17.38 | 17.21 |
| SEPT 30 1982 | 170 | 4.79 | 29 | 170 | 3.54 | 22 | 459 | 7.52 | 46 | 15 | .50 | 3 | 16.34 | 16.75 |
| MAR 10 1983 | 190 | 5.35 | 32 | 180 | 3.75 | 22 | 451 | 7.40 | 44 | 14 | .46 | 3 | 16.96 | 16.43 |
| JUNE 08 1983 | 145 | 4.08 | 28 | 150 | 3.12 | 22 | 414 | 6.78 | 47 | 14 | .48 | 3 | 14.46 | 13.33 |
| OCT 12 1983 | 220 | 6.20 | 31 | 280 | 5.83 | 29 | 497 | 8.14 | 40 | <5.00 | .00 | 0 | 20.16 | 24.42* |
| APR 06 1984 | 190 | 5.35 | 34 | 130 | 2.71 | 17 | 434 | 7.12 | 45 | 15 | .50 | 3 | 15.68 | 15.89 |
| JUNE 14 1984 | 180 | 5.07 | 36 | 109 | 2.27 | 16 | 418 | 6.86 | 48 | <5.00 | .00 | 0 | 14.20 | 13.68 |
| SEPT 30 1984 | 208 | 5.86 | 42 | 190 | 3.95 | 28 | 259 | 4.24 | 30 | <5.00 | .00 | 0 | 14.05 | 18.36* |

* INDICATES ANION AND CATION TOTALS DON'T LIE WITHIN 10% OF EACH OTHER.

+ INDICATES A MAJOR PARAMETER IS MISSING.

## TABLE XXXIV

### MAJOR ION CHEMISTRY

DOMTAR-G.W
TYPE - WATER
LOCATION FD

DOMTAR QUARRY GROUNDWATER

| | CATIONS | | | | | | | | | | | | CATION TOTAL | ANION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CA | | | MG | | | NA | | | K | | | | |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| SEPT 30 1982 | 600 | 29.93 | 23 | 118 | 9.71 | 7 | 2060 | 89.57 | 68 | 66 | 1.69 | 1 | 130.89 | 137.29 |

| | ANIONS | | | | | | | | | | | | ANION TOTAL | CATION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CL | | | SO4 | | | HCO3 | | | CO3 | | | | |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| SEPT 30 1982 | 4200 | 118.31 | 86 | 865 | 18.00 | 13 | 60 | .98 | 1 | <5.00 | .00 | 0 | 137.29 | 130.89 |

* INDICATES ANION AND CATION TOTALS DON'T LIE WITHIN 10% OF EACH OTHER.

+ INDICATES A MAJOR PARAMETER IS MISSING.

## TABLE XXXV

### MAJOR ION CHEMISTRY

DOMTAR-G.W
TYPE - WATER
LOCATION FS

DOMTAR QUARRY GROUNDWATER

| | CATIONS | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CA | | | MG | | | NA | | | K | | | CATION TOTAL | ANION TOTAL |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| SEPT 30 1982 | 28 | 1.40 | 11 | 7 | .60 | 5 | 225 | 9.78 | 78 | 30 | .77 | 6 | 12.55 | 12.53 |

| | ANIONS | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CL | | | SO4 | | | HCO3 | | | CO3 | | | ANION TOTAL | CATION TOTAL |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| SEPT 30 1982 | 260 | 7.32 | 58 | 230 | 4.79 | 38 | <5.00 | .00 | 0 | 13 | .42 | 3 | 12.53 | 12.55 |

* INDICATES ANION AND CATION TOTALS DON'T LIE WITHIN 10% OF EACH OTHER.

+ INDICATES A MAJOR PARAMETER IS MISSING.

## TABLE XXXVI

### MAJOR ION CHEMISTRY

DOMTAR-G.W
TYPE - WATER
LOCATION G

DOMTAR QUARRY GROUNDWATER

| | CATIONS | | | | | | | | | | | | CATION TOTAL | ANION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CA | | | MG | | | NA | | | K | | | | |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| MAR 31 1982 | 290 | 14.46 | 18 | 63 | 5.19 | 7 | 1325 | 57.61 | 73 | 48 | 1.23 | 2 | 78.49 | 81.06 |
| JUNE 29 1982 | 180 | 8.98 | 17 | 42 | 3.46 | 7 | 900 | 39.13 | 75 | 32 | .82 | 2 | 52.38 | 52.44 |
| SEPT 30 1982 | 234 | 11.67 | 18 | 48 | 3.95 | 6 | 1150 | 50.00 | 75 | 39 | 1.00 | 1 | 66.62 | 69.57 |
| JUNE 08 1983 | 211 | 10.52 | 31 | 42 | 3.46 | 10 | 440 | 19.13 | 56 | 39 | 1.00 | 3 | 34.11 | 62.82* |
| JUNE 14 1984 | 199 | 9.93 | 17 | 41 | 3.37 | 6 | 1010 | 43.91 | 76 | 37 | .94 | 2 | 58.15 | 59.12 |

| | ANIONS | | | | | | | | | | | | ANION TOTAL | CATION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CL | | | SO4 | | | HCO3 | | | CO3 | | | | |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| MAR 31 1982 | 2700 | 76.06 | 94 | 110 | 2.29 | 3 | 145 | 2.38 | 3 | 10 | .34 | 0 | 81.06 | 78.49 |
| JUNE 29 1982 | 1595 | 44.93 | 86 | 140 | 2.91 | 6 | 256 | 4.20 | 8 | 12 | .40 | 1 | 52.44 | 52.38 |
| SEPT 30 1982 | 2100 | 59.15 | 85 | 290 | 6.04 | 9 | 242 | 3.96 | 6 | 13 | .42 | 1 | 69.57 | 66.62 |
| JUNE 08 1983 | 1980 | 55.77 | 89 | 130 | 2.71 | 4 | 265 | 4.34 | 7 | <5.00 | .00 | 0 | 62.82 | 34.11* |
| JUNE 14 1984 | 1840 | 51.83 | 88 | 132 | 2.75 | 5 | 277 | 4.54 | 8 | <5.00 | .00 | 0 | 59.12 | 58.15 |

* INDICATES ANION AND CATION TOTALS DON'T LIE WITHIN 10% OF EACH OTHER.

+ INDICATES A MAJOR PARAMETER IS MISSING.

# TABLE XXXVII

## MAJOR ION CHEMISTRY

DOMTAR-G.W
TYPE - WATER
LOCATION JD

DOMTAR QUARRY GROUNDWATER

| | CATIONS | | | | | | | | | | | | CATION TOTAL | ANION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CA | | | MG | | | NA | | | K | | | | |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| MAR 10 1983 | 50 | 2.49 | 10 | 13 | 1.07 | 4 | 450 | 19.57 | 81 | 36 | .92 | 4 | 24.05 | 27.11* |
| OCT 12 1983 | 33 | 1.65 | 8 | 7 | .57 | 3 | 390 | 16.96 | 85 | 28 | .72 | 4 | 19.89 | 19.25 |
| APR 06 1984 | 54 | 2.68 | 12 | 11 | .92 | 4 | 423 | 18.39 | 81 | 25 | .65 | 3 | 22.65 | 24.05 |
| SEPT 30 1984 | 35 | 1.75 | 8 | 8 | .63 | 3 | 437 | 19.00 | 86 | 24 | .60 | 3 | 21.98 | 20.45 |

| | ANIONS | | | | | | | | | | | | ANION TOTAL | CATION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CL | | | SO4 | | | HCO3 | | | CO3 | | | | |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| MAR 10 1983 | 680 | 19.15 | 71 | 220 | 4.58 | 17 | 181 | 2.96 | 11 | 13 | .42 | 2 | 27.11 | 24.05* |
| OCT 12 1983 | 400 | 11.27 | 59 | 200 | 4.16 | 22 | 215 | 3.52 | 18 | 9 | .30 | 2 | 19.25 | 19.89 |
| APR 06 1984 | 680 | 19.15 | 80 | 88 | 1.83 | 8 | 167 | 2.74 | 11 | 10 | .32 | 1 | 24.05 | 22.65 |
| SEPT 30 1984 | 516 | 14.54 | 71 | 91 | 1.89 | 9 | 245 | 4.02 | 20 | <5.00 | .00 | 0 | 20.45 | 21.98 |

* INDICATES ANION AND CATION TOTALS DON'T LIE WITHIN 10% OF EACH OTHER.

+ INDICATES A MAJOR PARAMETER IS MISSING.

## TABLE XXXVIII

### MAJOR ION CHEMISTRY

DOMTAR-G.W
TYPE - WATER
LOCATION JS

DOMTAR QUARRY GROUNDWATER

| | CATIONS | | | | | | | | | | | | CATION TOTAL | ANION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CA | | | MG | | | NA | | | K | | | | |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| MAR 10 1983 | 20 | 1.00 | 9 | 4 | .36 | 3 | 200 | 8.70 | 82 | 20 | .51 | 5 | 10.57 | 9.86 |
| OCT 12 1983 | 12 | .62 | 10 | 2 | .20 | 3 | 114 | 4.96 | 81 | 13 | .33 | 5 | 6.10 | 7.10* |
| APR 06 1984 | 20 | .99 | 11 | 4 | .30 | 3 | 171 | 7.43 | 82 | 15 | .38 | 4 | 9.11 | 9.44 |
| SEPT 30 1984 | 11 | .53 | 8 | 2 | .15 | 2 | 129 | 5.61 | 86 | 10 | .26 | 4 | 6.55 | 6.55 |

| | ANIONS | | | | | | | | | | | | ANION TOTAL | CATION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CL | | | SO4 | | | HCO3 | | | CO3 | | | | |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| MAR 10 1983 | 130 | 3.66 | 37 | 24 | .50 | 5 | 328 | 5.38 | 55 | 10 | .32 | 3 | 9.86 | 10.57 |
| OCT 12 1983 | 49 | 1.38 | 19 | 25 | .52 | 7 | 293 | 4.80 | 68 | 12 | .40 | 6 | 7.10 | 6.10* |
| APR 06 1984 | 130 | 3.66 | 39 | 69 | 1.44 | 15 | 213 | 3.50 | 37 | 25 | .84 | 9 | 9.44 | 9.11 |
| SEPT 30 1984 | 32 | .90 | 14 | 37 | .77 | 12 | 254 | 4.16 | 63 | 22 | .72 | 11 | 6.55 | 6.55 |

* INDICATES ANION AND CATION TOTALS DON'T LIE WITHIN 10% OF EACH OTHER.

+ INDICATES A MAJOR PARAMETER IS MISSING.

## TABLE XXXIX

### MAJOR ION CHEMISTRY

DOMTAR-G.W
TYPE - WATER
LOCATION SUMP

DOMTAR QUARRY GROUNDWATER

| | CATIONS | | | | | | | | | | | | CATION TOTAL | ANION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CA | | | MG | | | NA | | | K | | | | |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| MAR 31 1982 | 125 | 6.23 | 22 | 35 | 2.88 | 10 | 440 | 19.13 | 66 | 28 | .72 | 2 | 28.96 | 40.19* |
| JUNE 29 1982 | 92 | 4.59 | 18 | 30 | 2.47 | 10 | 400 | 17.39 | 69 | 34 | .87 | 3 | 25.32 | 26.39 |
| SEPT 30 1982 | 16 | .80 | 14 | 3 | .25 | 4 | 100 | 4.35 | 76 | 13 | .33 | 6 | 5.73 | 4.69* |
| DEC 03 1982 | 233 | 11.62 | 31 | 47 | 3.87 | 10 | 478 | 20.78 | 55 | 63 | 1.61 | 4 | 37.88 | 52.21* |
| MAR 10 1983 | 60 | 2.99 | 36 | 10 | .82 | 10 | 92 | 4.00 | 49 | 16 | .41 | 5 | 8.22 | 8.57 |
| JUNE 08 1983 | 152 | 7.58 | 35 | 24 | 1.98 | 9 | 250 | 10.87 | 50 | 48 | 1.23 | 6 | 21.65 | 32.10* |
| OCT 12 1983 | 12 | .59 | 4 | 28 | 2.30 | 14 | 280 | 12.17 | 76 | 38 | .97 | 6 | 16.04 | 21.35* |
| DEC 19 1983 | 30 | 1.50 | 27 | 6 | .49 | 9 | 74 | 3.22 | 58 | 14 | .36 | 6 | 5.57 | 5.23 |
| APR 06 1984 | 172 | 8.58 | 31 | 33 | 2.71 | 10 | 348 | 15.13 | 55 | 48 | 1.24 | 4 | 27.65 | 28.46 |
| JUNE 14 1984 | 107 | 5.34 | 25 | 19 | 1.54 | 7 | 317 | 13.78 | 64 | 35 | .88 | 4 | 21.54 | 19.34* |
| SEPT 30 1984 | 158 | 7.88 | 24 | 40 | 3.29 | 10 | 468 | 20.35 | 62 | 53 | 1.37 | 4 | 32.8 | 31.48 |

| | ANIONS | | | | | | | | | | | | ANION TOTAL | CATION TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CL | | | SO4 | | | HCO3 | | | CO3 | | | | |
| DATE | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | MG/L | EPM | %EPM | EPM | EPM |
| MAR 31 1982 | 970 | 27.32 | 68 | 430 | 8.95 | 22 | 212 | 3.48 | 9 | 13 | .44 | 1 | 40.19 | 28.96* |
| JUNE 29 1982 | 444 | 12.51 | 47 | 576 | 11.99 | 45 | 116 | 1.90 | 7 | <5.00 | .00 | 0 | 26.39 | 25.32 |
| SEPT 30 1982 | 38 | 1.07 | 23 | 120 | 2.50 | 53 | 40 | .66 | 14 | 14 | .46 | 10 | 4.69 | 5.73* |
| DEC 03 1982 | 1100 | 30.99 | 59 | 820 | 17.07 | 33 | 254 | 4.16 | 8 | <5.00 | .00 | 0 | 52.21 | 37.88* |
| MAR 10 1983 | 62 | 1.75 | 20 | 255 | 5.31 | 62 | 93 | 1.52 | 18 | <5.00 | .00 | 0 | 8.57 | 8.22 |
| JUNE 08 1983 | 530 | 14.93 | 47 | 700 | 14.57 | 45 | 159 | 2.60 | 8 | <5.00 | .00 | 0 | 32.10 | 21.65* |
| OCT 12 1983 | 420 | 11.83 | 55 | 370 | 7.70 | 36 | 102 | 1.68 | 8 | 4 | .14 | 1 | 21.35 | 16.04* |
| DEC 19 1983 | 76 | 2.14 | 41 | 118 | 2.46 | 47 | 39 | .64 | 12 | <5.00 | .00 | 0 | 5.23 | 5.57 |
| APR 06 1984 | 391 | 11.01 | 39 | 600 | 12.49 | 44 | 303 | 4.96 | 17 | <5.00 | .00 | 0 | 28.46 | 27.65 |
| JUNE 14 1984 | 330 | 9.30 | 48 | 406 | 8.45 | 44 | 98 | 1.60 | 8 | <5.00 | .00 | 0 | 19.34 | 21.54* |
| SEPT 30 1984 | 502 | 14.14 | 45 | 671 | 13.96 | 44 | 206 | 3.38 | 11 | <5.00 | .00 | 0 | 31.48 | 32.89 |

* INDICATES ANION AND CATION TOTALS DON'T LIE WITHIN 10% OF EACH OTHER.

TABLE XL

CHARACTERISTICS OF GROUND WATER SAMPLED AT DOMTAR ASH DISPOSAL SITE AND VICINITY

| Sampling Location(s) | Major Ion Chemistry | Solute Levels |
|---|---|---|
| 2B, 3A, 5A, 5B, Dd, Ed-2, Fs, Fd G, Jd and Sump | Dominance of alkali metal cations and strong acid anions | NC* |
| Ds<br>Es<br>Js | 'No dominance' of major ions | NC* |
| 2A | Originally, 'no dominance' of major ions - shifted in 1983 to dominance of alkaline earth cations and weak acid anions: change persists into 1984. | NC* |
| 8 | Originally, dominance of alkali metal cations and strong acid anions - shifted in June 1984, to dominance of alkaline earth cations and weak acid anions. | Concentrations of Na and Cl fell sharply with overall ~6-fold dilution observed in June, 1984. |
| E1 | Generally, dominance of alkaline earth cations and weak acid anions, but changed three times (in spring, 1981, 1982 & 1984) to dominance of alkali metal cations and strong acid anions. | Concentrations of Na and Cl elevated in spring, 1981, 1982, & 1984. Probable road salt contamination. |
| 3B | Dominance of alkali metal cations and strong acid anions | Dilution (~9-fold) observed in June, 1984; returned to former concentration range by September, 1984. |
| 3C | Dominance of alkali metal cations and strong acid anions. | Massive dilution of 1982/83 persists through 1984. |

* NC denotes no significant change in concentration to September, 1984

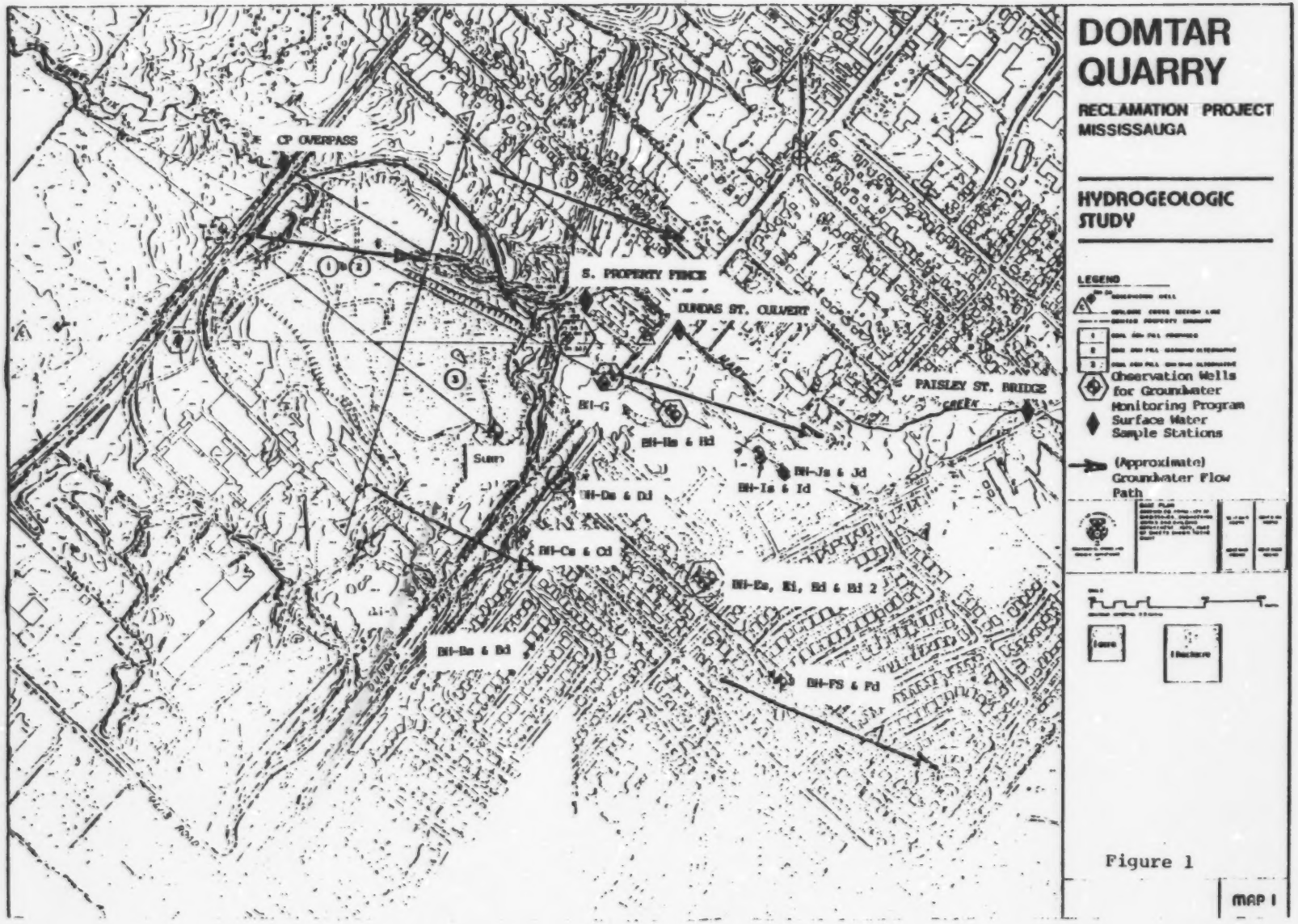

CP OVERPASS
S. PROPERTY FENCE
DUNDAS ST. CULVERT
PAISLEY ST. BRIDGE
CREEK
Sump
BH-G
BH-Ha & Hd
BH-Ja & Jd
BH-Ia & Id
BH-Da & Dd
BH-Ca & Cd
BH-Ea, Ed & Ed 2
BH-Ba & Bd
BH-Fa & Fd
DOMTAR
QUARRY
RECLAMATION PROJECT
MISSISSAUGA
HYDROGEOLOGIC
STUDY
LEGEND
Observation Wells for Groundwater Monitoring Program
Surface Water Sample Stations
(Approximate) Groundwater Flow Path
MAP 1

Figure 1

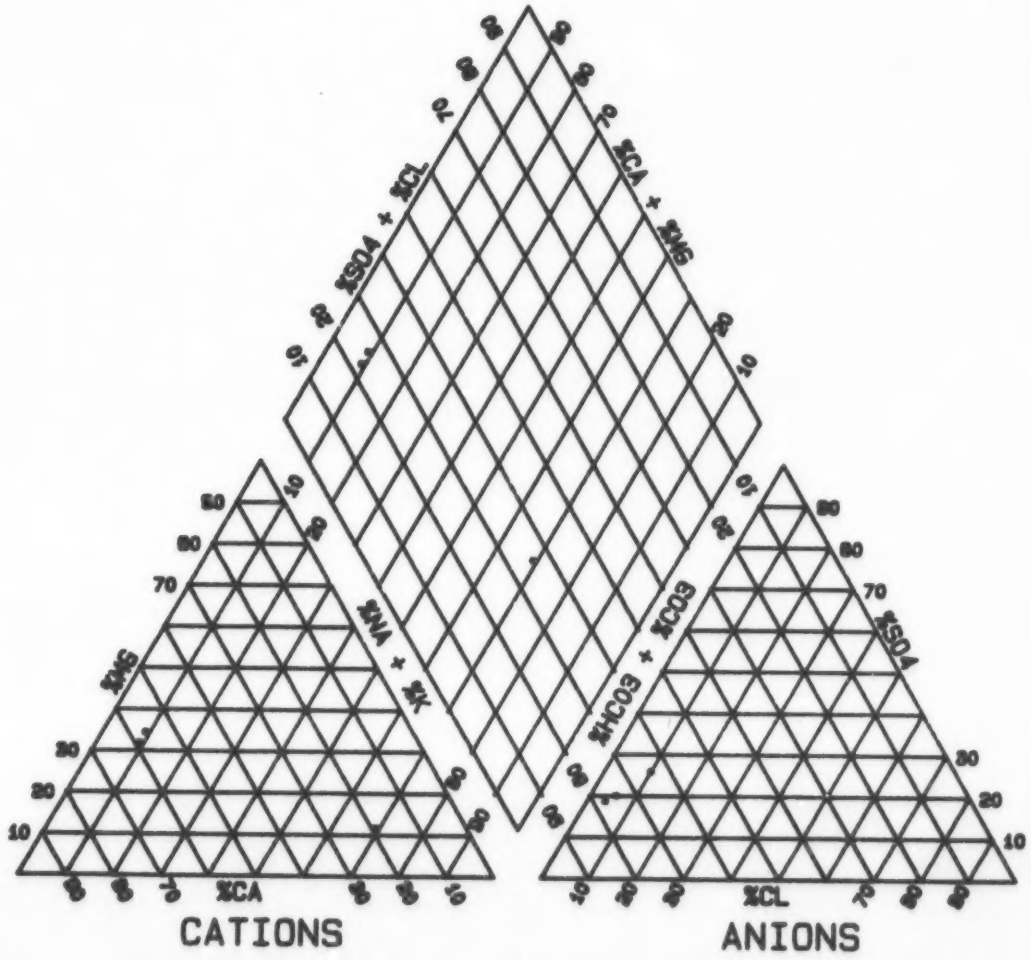
## PIPER DIAGRAMS*

(FIGURES 2 - 20)

*Legend: The symbol ⊙ denotes 'Before Ash Placement Commenced'
The symbol • denotes 'After Ash Placement Commenced'

FIGURE 2

MAJOR ION CHEMISTRY
DOMTAR-G.W
TYPE - WATER
LOCATION 02A
DOMTAR QUARRY PIPER DIAGRAM

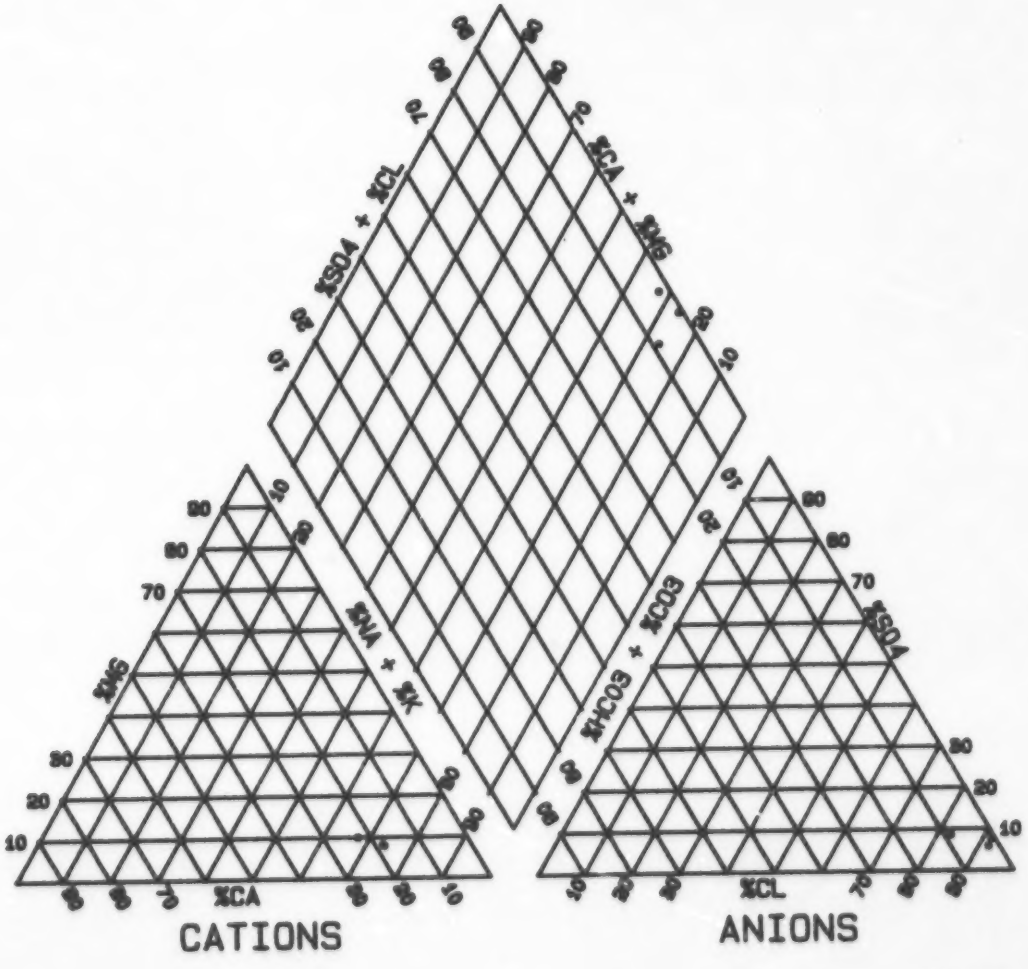





84-452

FIGURE 3

MAJOR ION CHEMISTRY
DOMTAR-G.W
TYPE - WATER
LOCATION 02B
DOMTAR QUARRY PIPER DIAGRAM

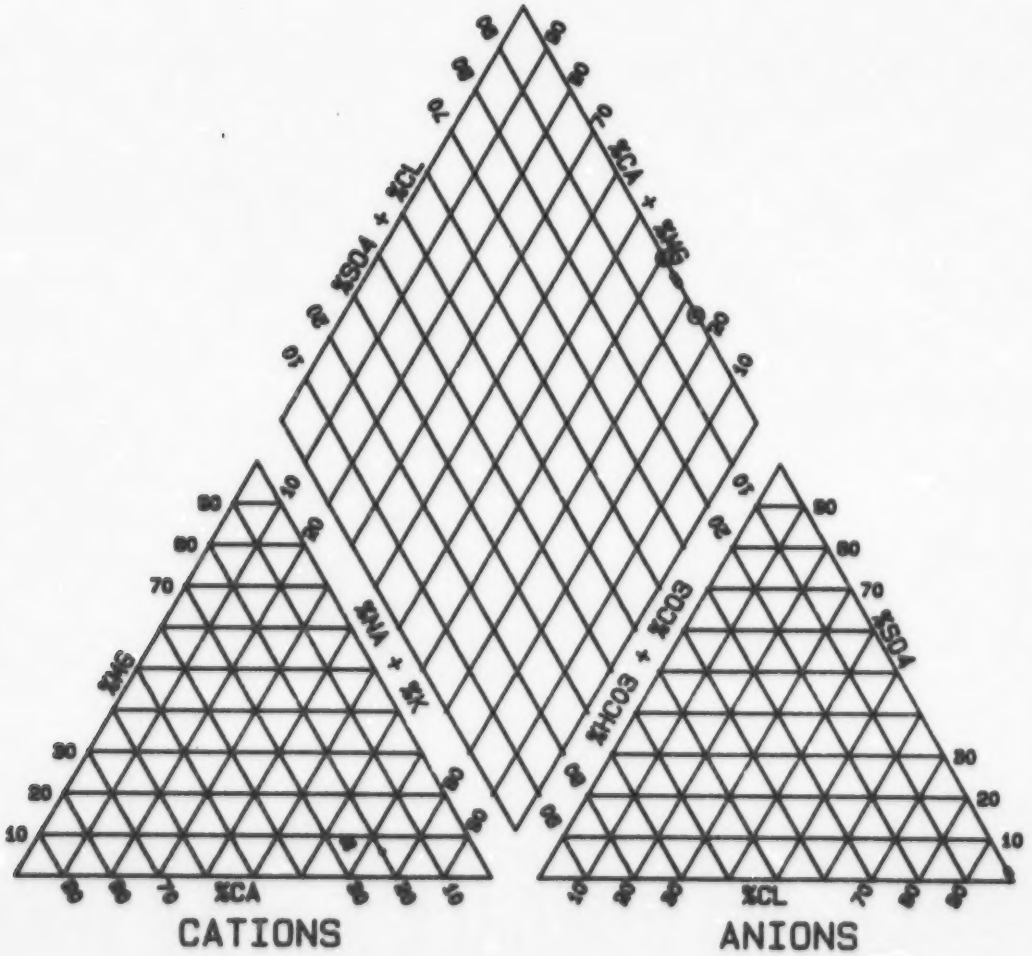





84-452

FIGURE 4

MAJOR ION CHEMISTRY
DOMTAR-G.W
TYPE - WATER
LOCATION 03A
DOMTAR QUARRY PIPER DIAGRAM

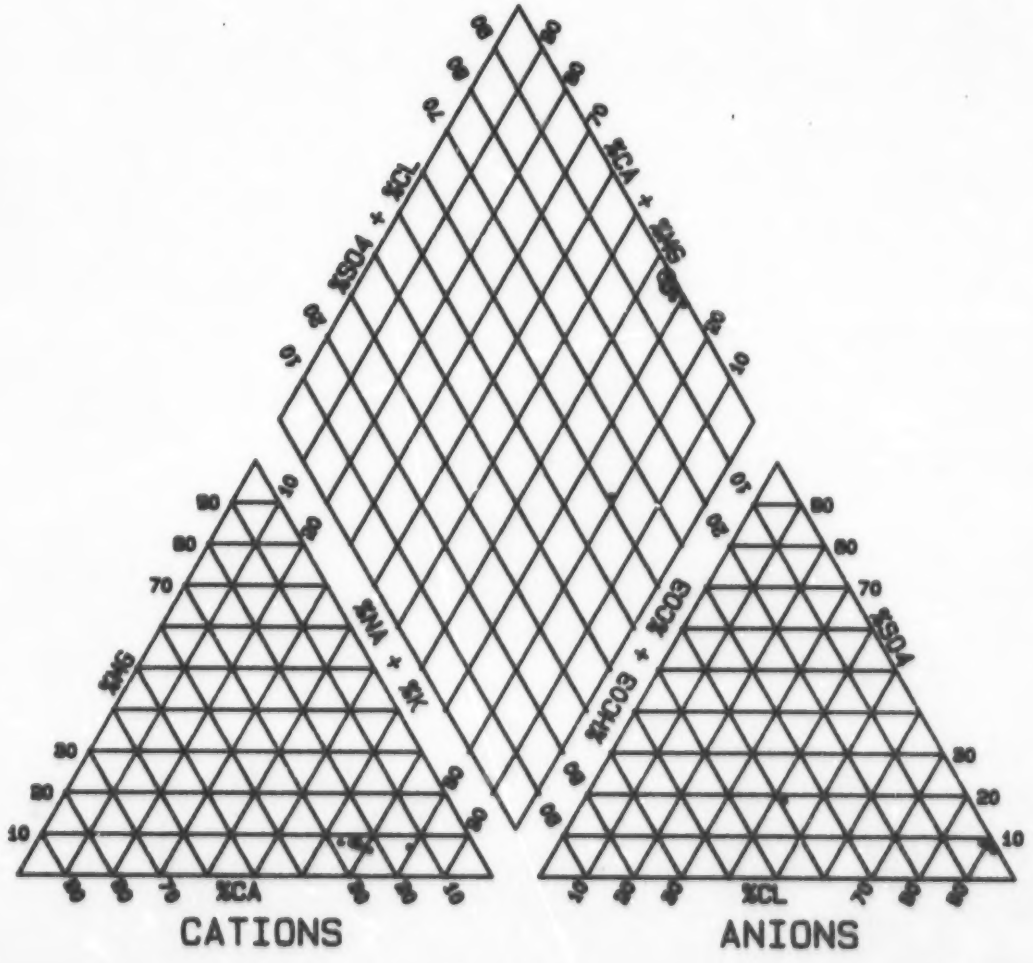





84-452

FIGURE 5

MAJOR ION CHEMISTRY
DOMTAR-G.W
TYPE - WATER
LOCATION 03B
DOMTAR QUARRY PIPER DIAGRAM

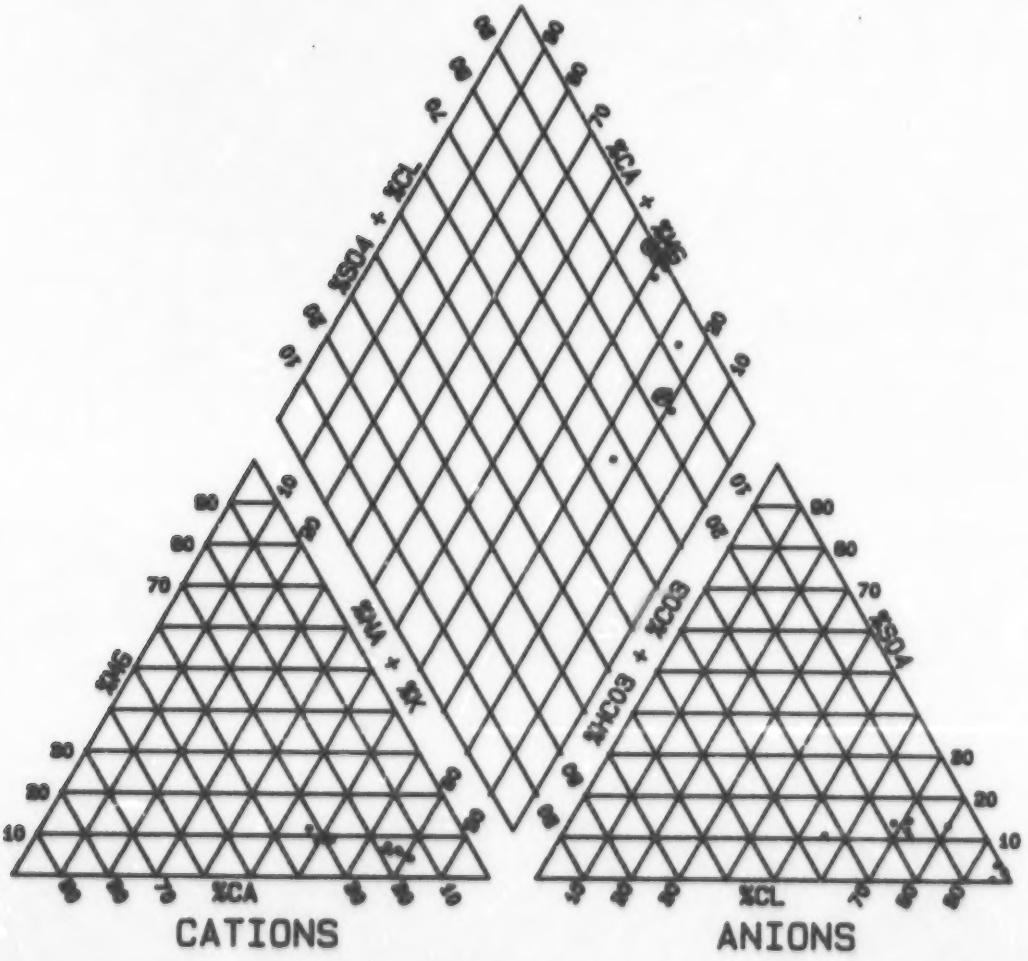





84-452

FIGURE 6

MAJOR ION CHEMISTRY
DOMTAR-G.W
TYPE - WATER
LOCATION 03C
DOMTAR QUARRY PIPER DIAGRAM

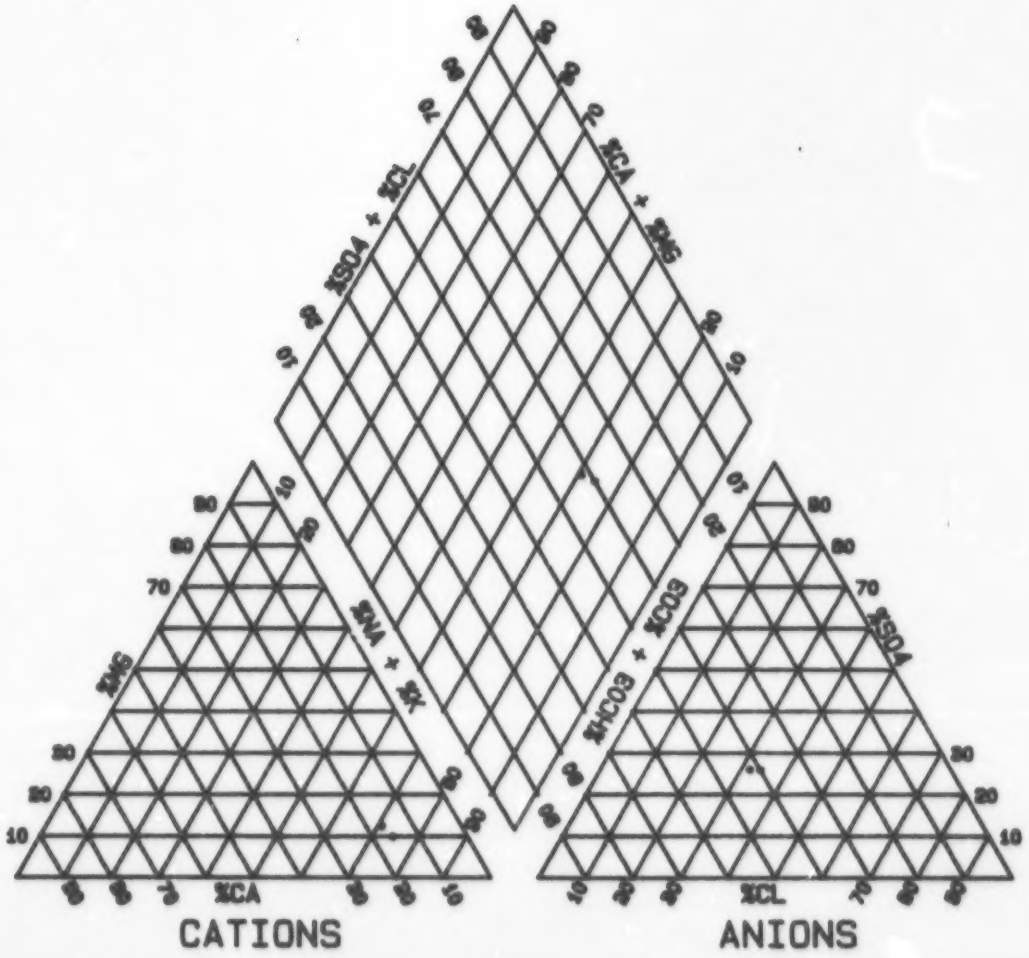





84-452

FIGURE 7

MAJOR ION CHEMISTRY
DOMTAR-G.W
TYPE - WATER
LOCATION 05A
DOMTAR QUARRY PIPER DIAGRAM

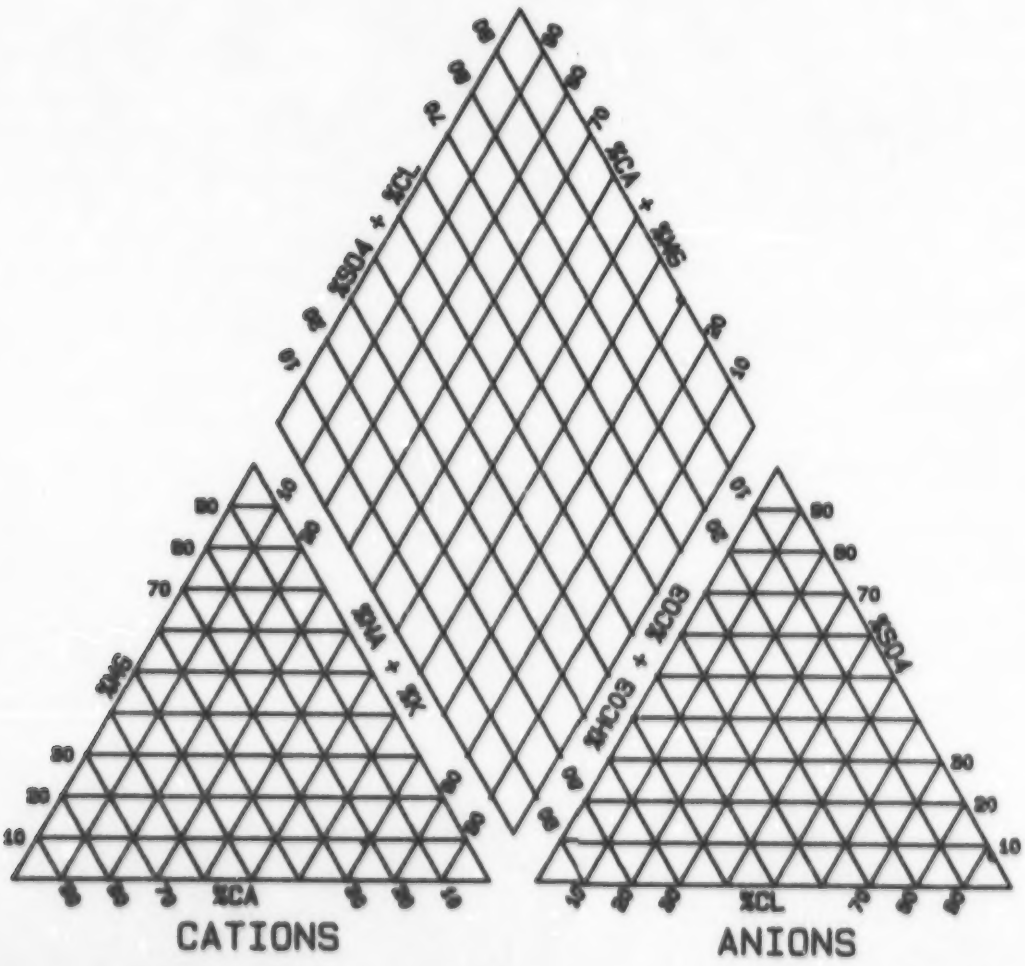





84-452

FIGURE 8

MAJOR ION CHEMISTRY
DOMTAR-G.W
TYPE - WATER
LOCATION 05B
DOMTAR QUARRY PIPER DIAGRAM

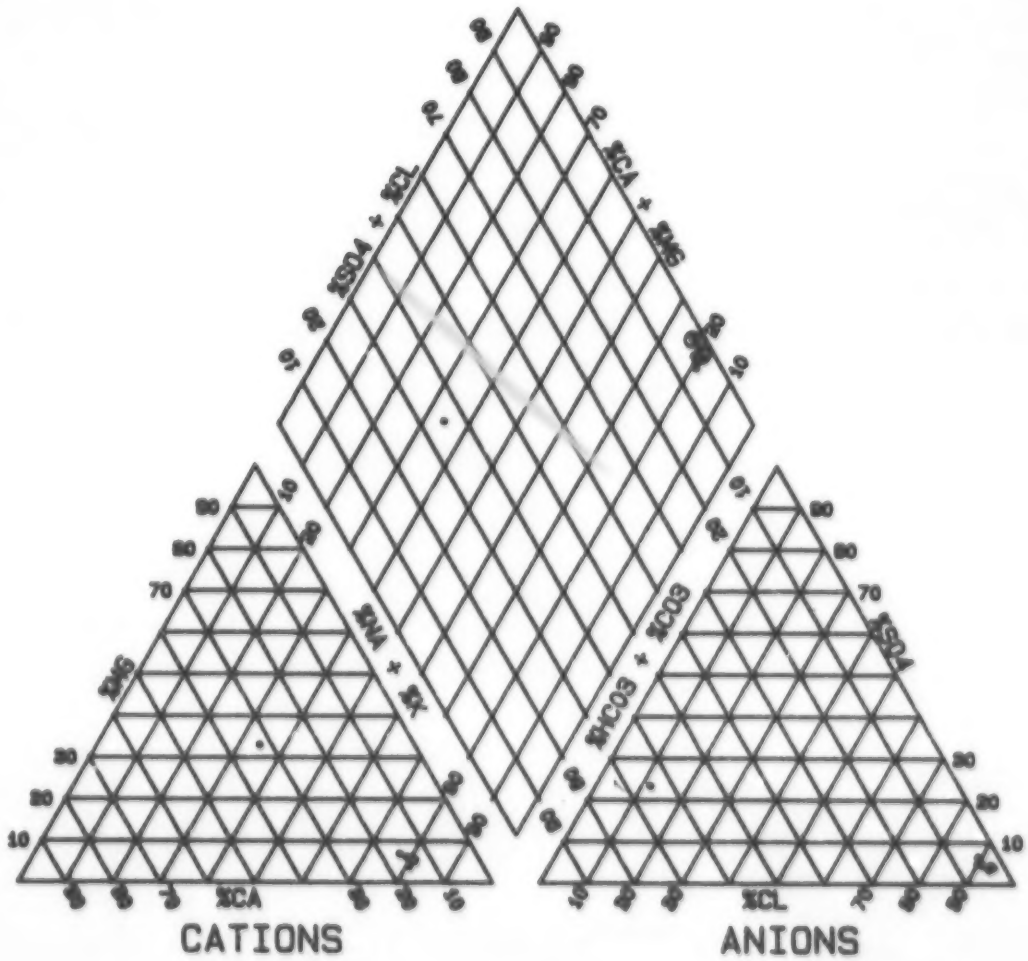





84-452

FIGURE 9

MAJOR ION CHEMISTRY
DOMTAR-G.W
TYPE - WATER
LOCATION 08
DOMTAR QUARRY PIPER DIAGRAM

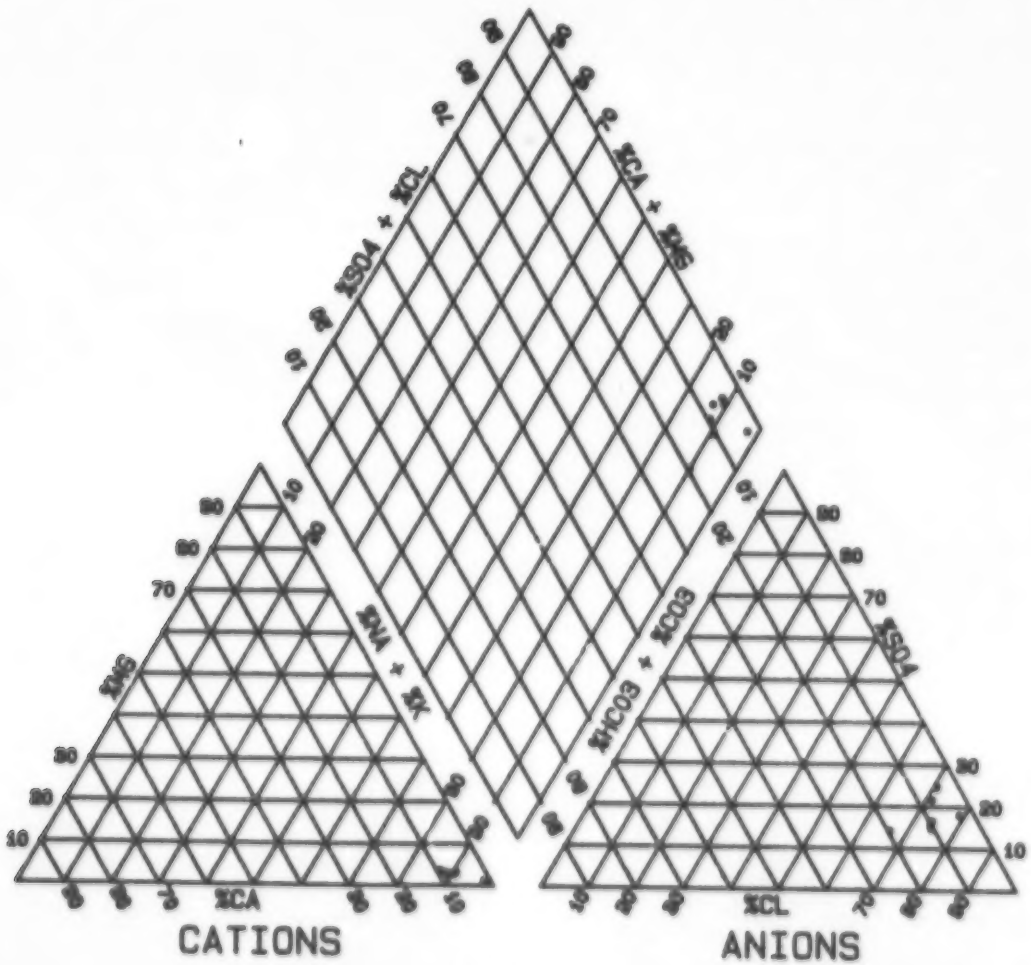





84-452

FIGURE 10

MAJOR ION CHEMISTRY
DOMTAR-G.W
TYPE - WATER
LOCATION DD
DOMTAR QUARRY PIPER DIAGRAM

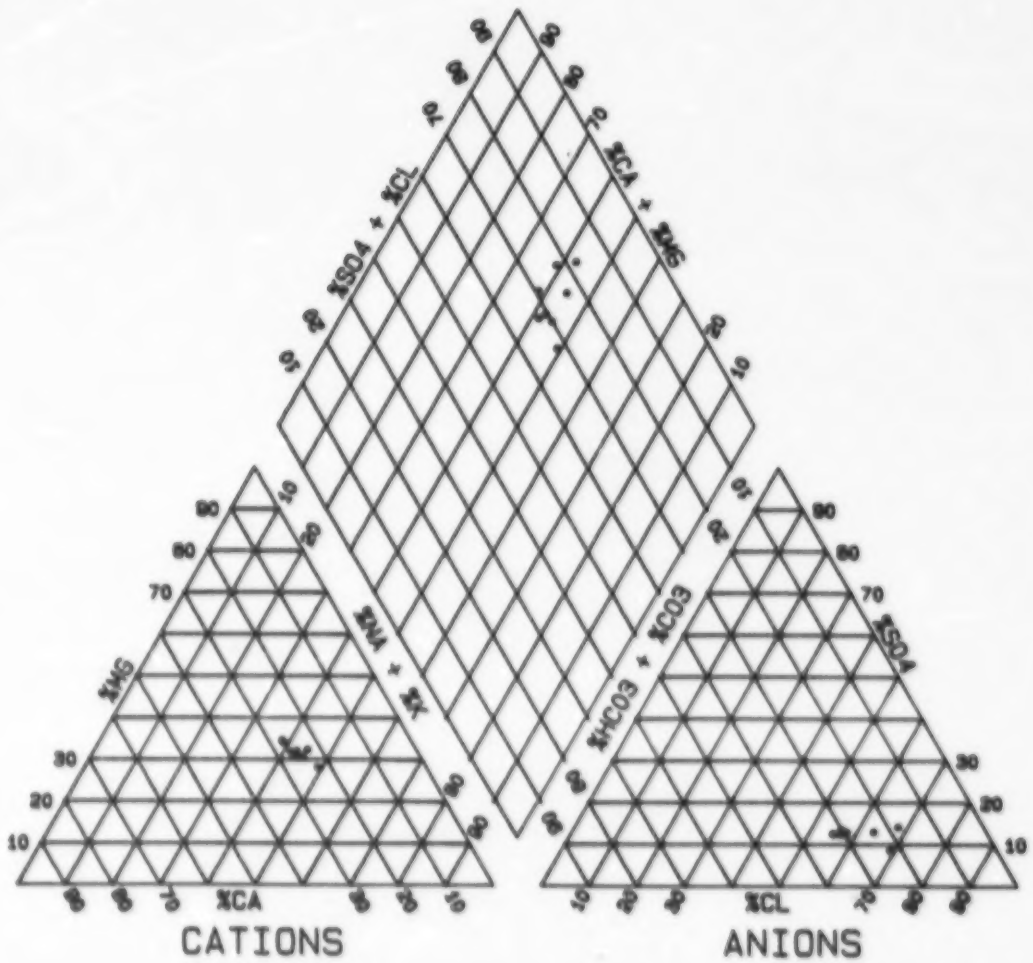





84-452

FIGURE 11

MAJOR ION CHEMISTRY
DOMTAR-G.W
TYPE - WATER
LOCATION DS
DOMTAR QUARRY PIPER DIAGRAM

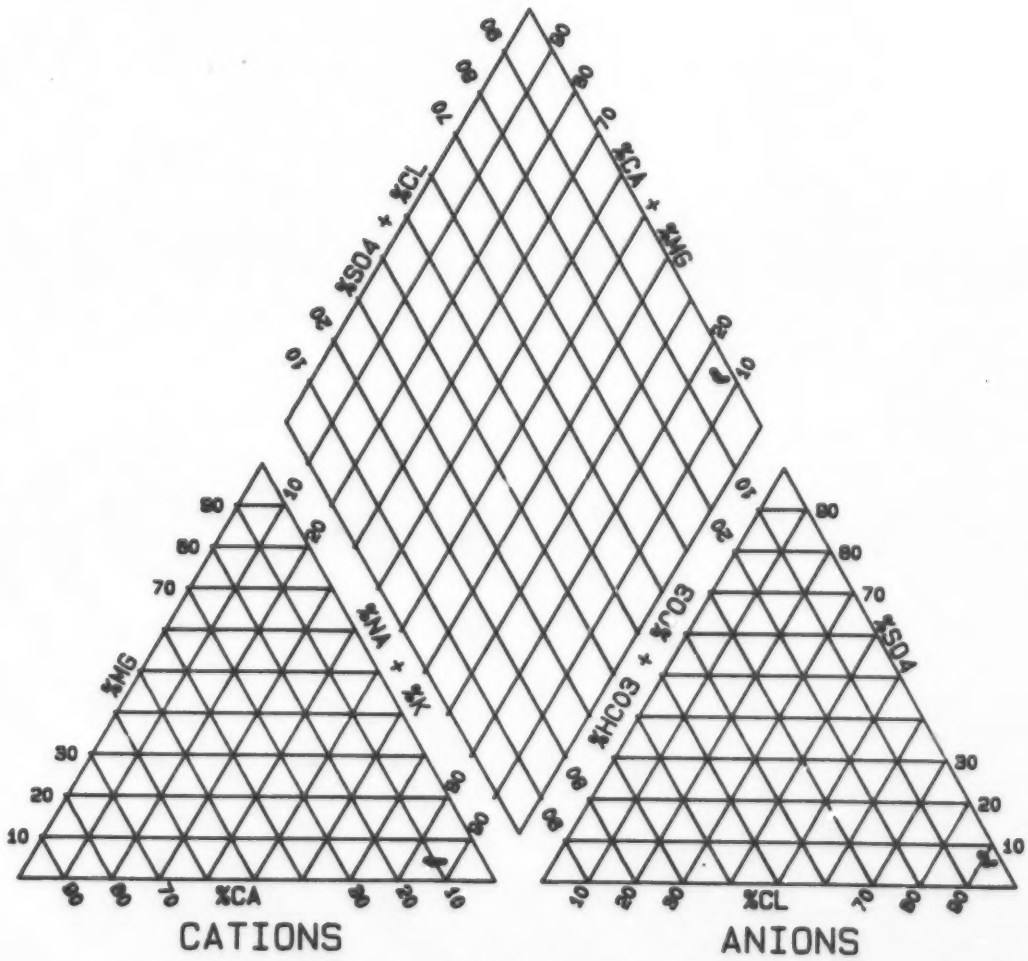





84-452

FIGURE 12

MAJOR ION CHEMISTRY
DOMTAR-G.W
TYPE - WATER
LOCATION ED2
DOMTAR QUARRY PIPER DIAGRAM

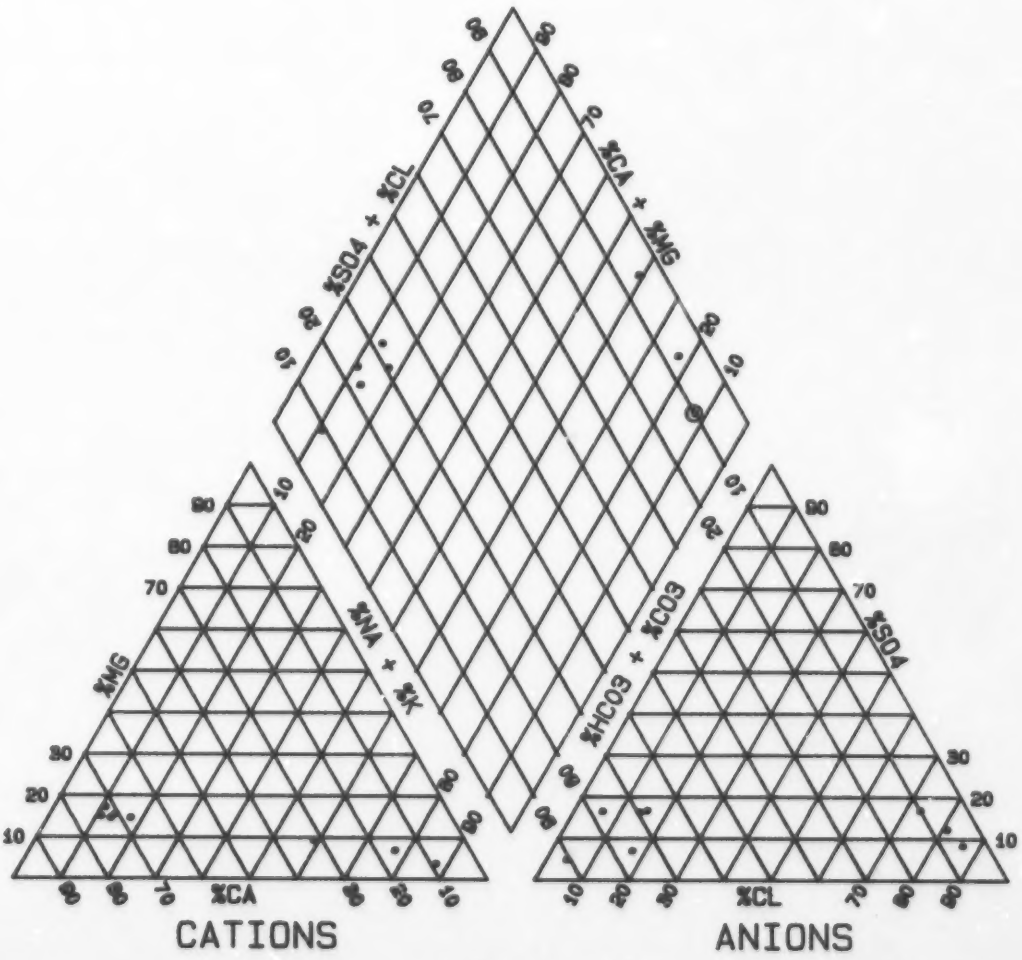





84-452

FIGURE 13

MAJOR ION CHEMISTRY
DOMTAR-G.W
TYPE - WATER
LOCATION EI
DOMTAR QUARRY PIPER DIAGRAM

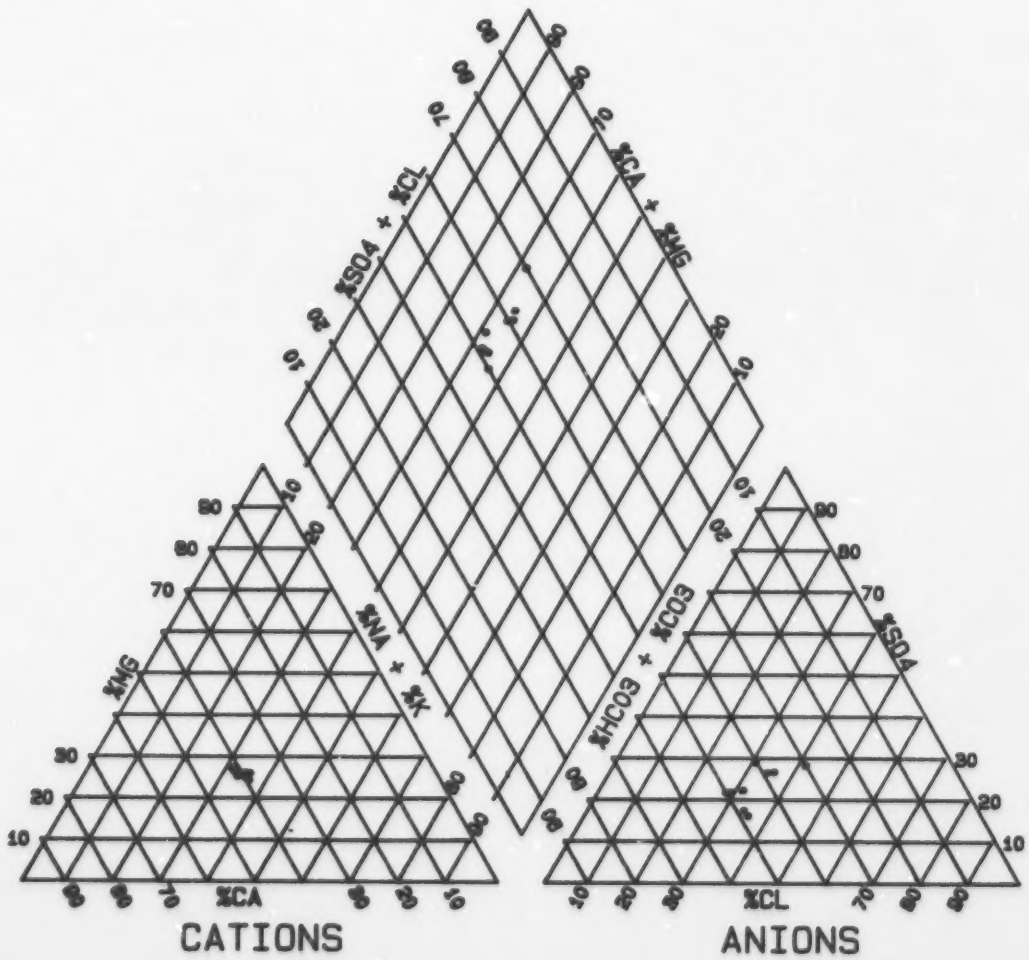





84-452

FIGURE 14

MAJOR ION CHEMISTRY
DOMTAR-G.W
TYPE - WATER
LOCATION ES
DOMTAR QUARRY PIPER DIAGRAM

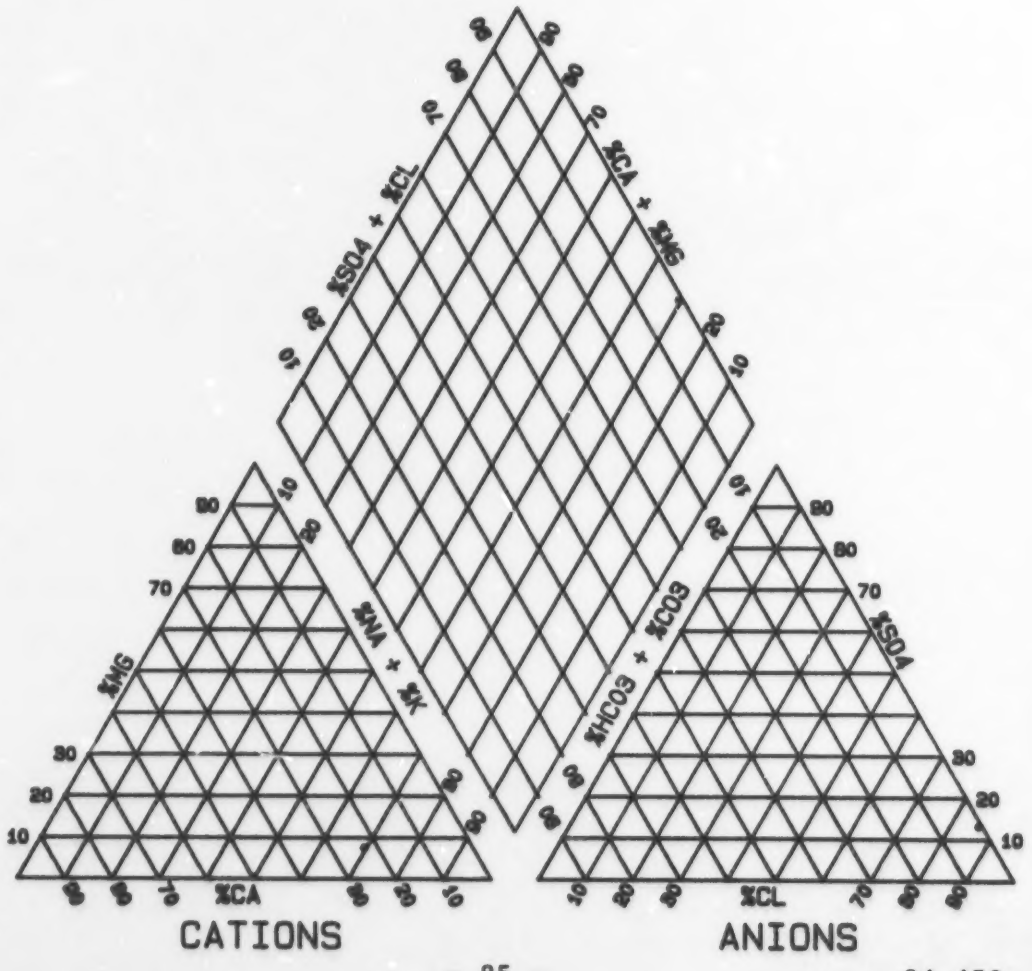





84-452

FIGURE 15

MAJOR ION CHEMISTRY
DOMTAR-G.W
TYPE - WATER
LOCATION FD
DOMTAR QUARRY PIPER DIAGRAM

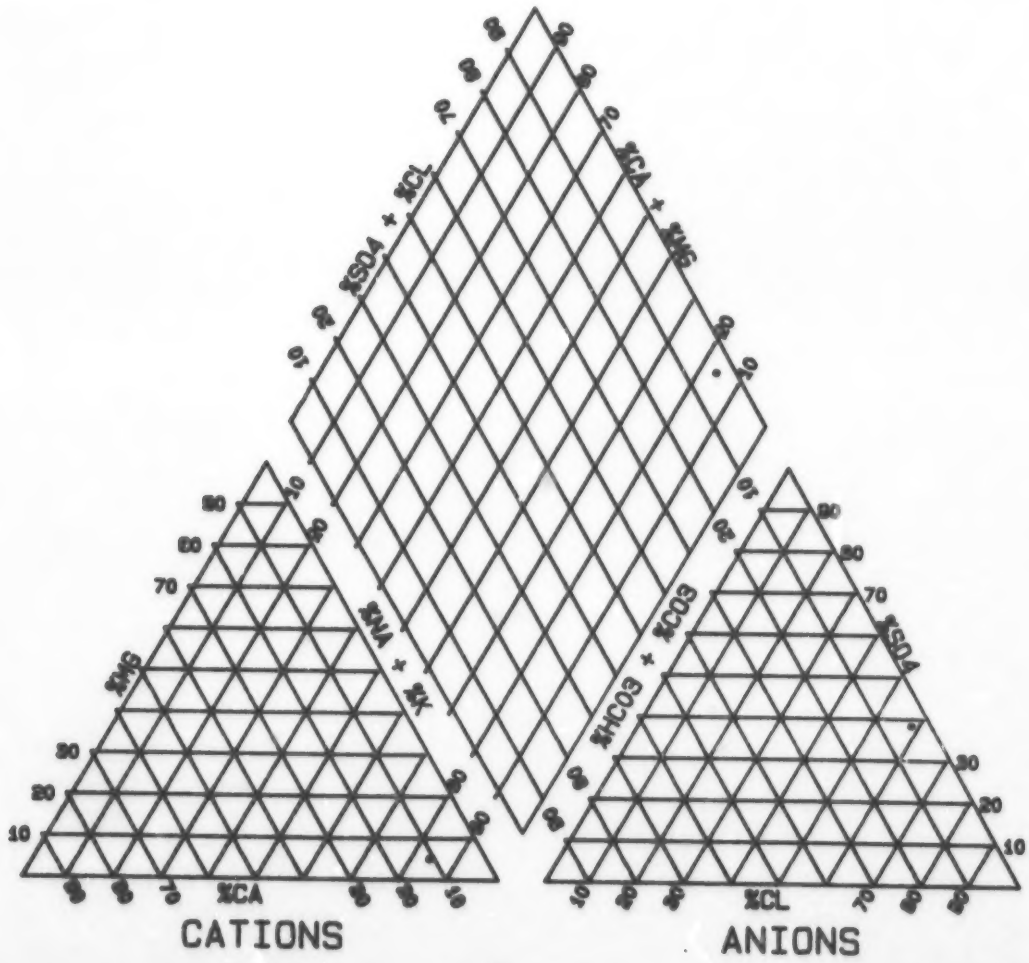





84-452

FIGURE 16

MAJOR ION CHEMISTRY
DOMTAR-G.W
TYPE - WATER
LOCATION FS
DOMTAR QUARRY PIPER DIAGRAM

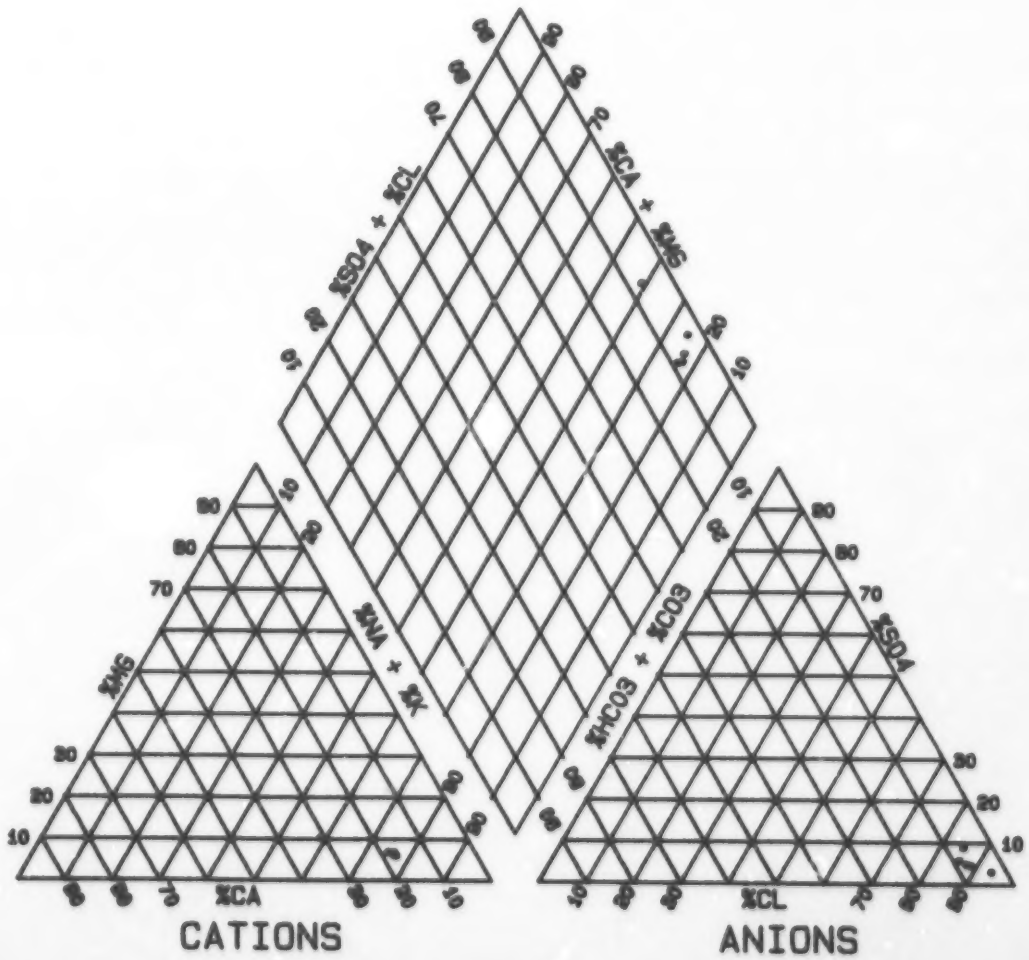





84-452

FIGURE 17

MAJOR ION CHEMISTRY
DOMTAR-G.W
TYPE - WATER
LOCATION G
DOMTAR QUARRY PIPER DIAGRAM

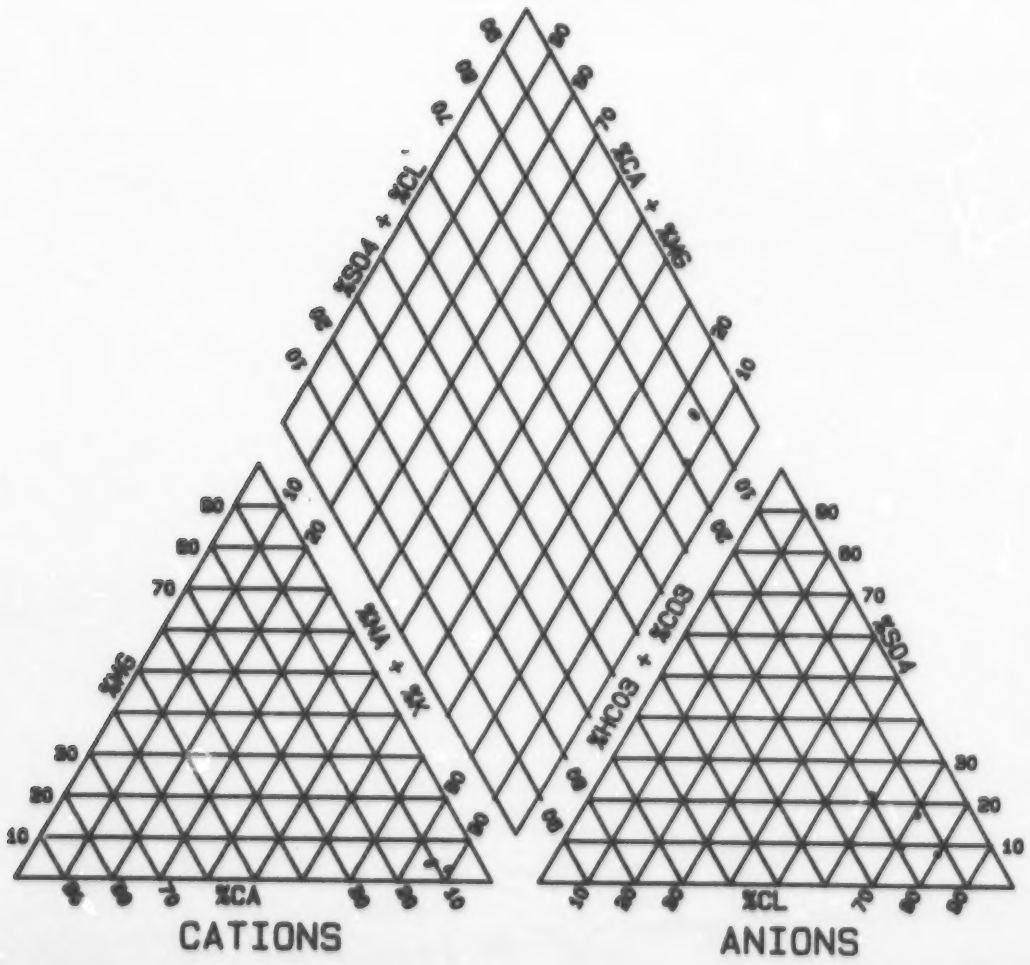





84-452

FIGURE 18

MAJOR ION CHEMISTRY
DOMTAR-G.W
TYPE - WATER
LOCATION JD
DOMTAR QUARRY PIPER DIAGRAM

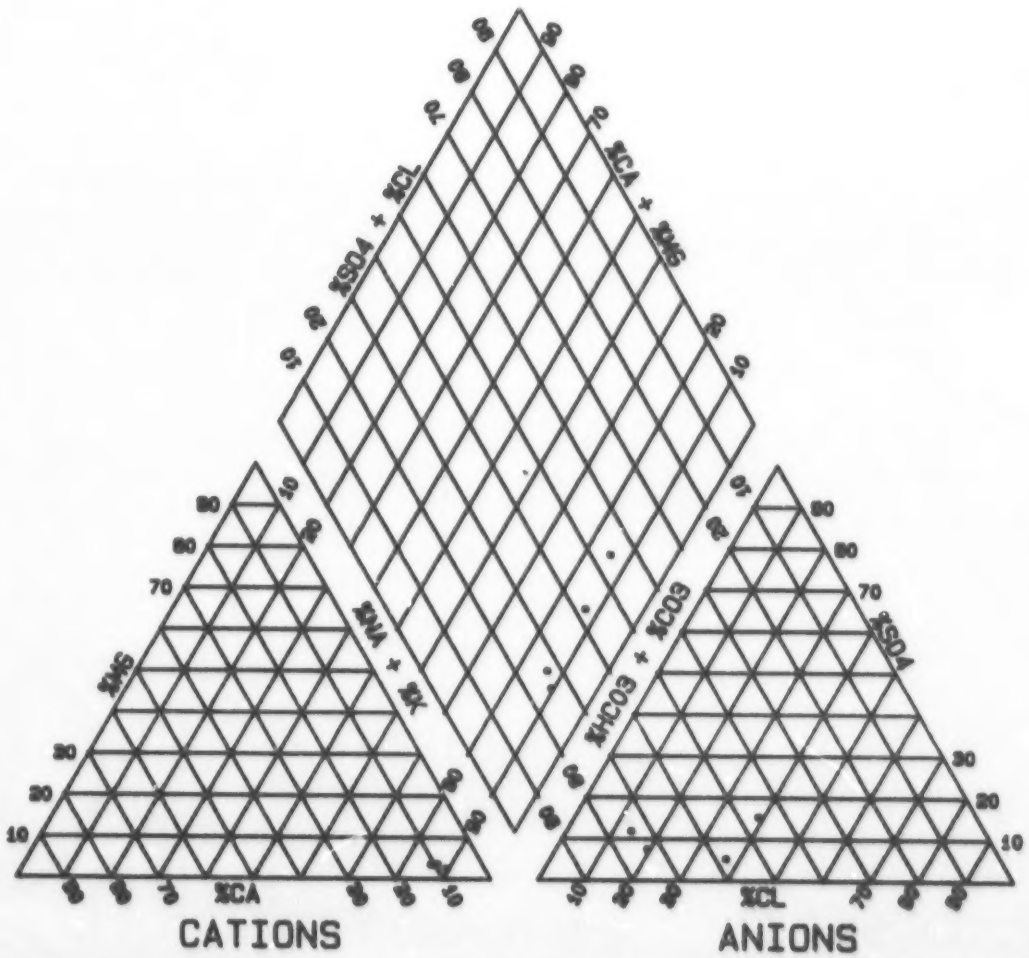





84-452

FIGURE 19

MAJOR ION CHEMISTRY
DOMTAR-G.W
TYPE - WATER
LOCATION JS
DOMTAR QUARRY PIPER DIAGRAM

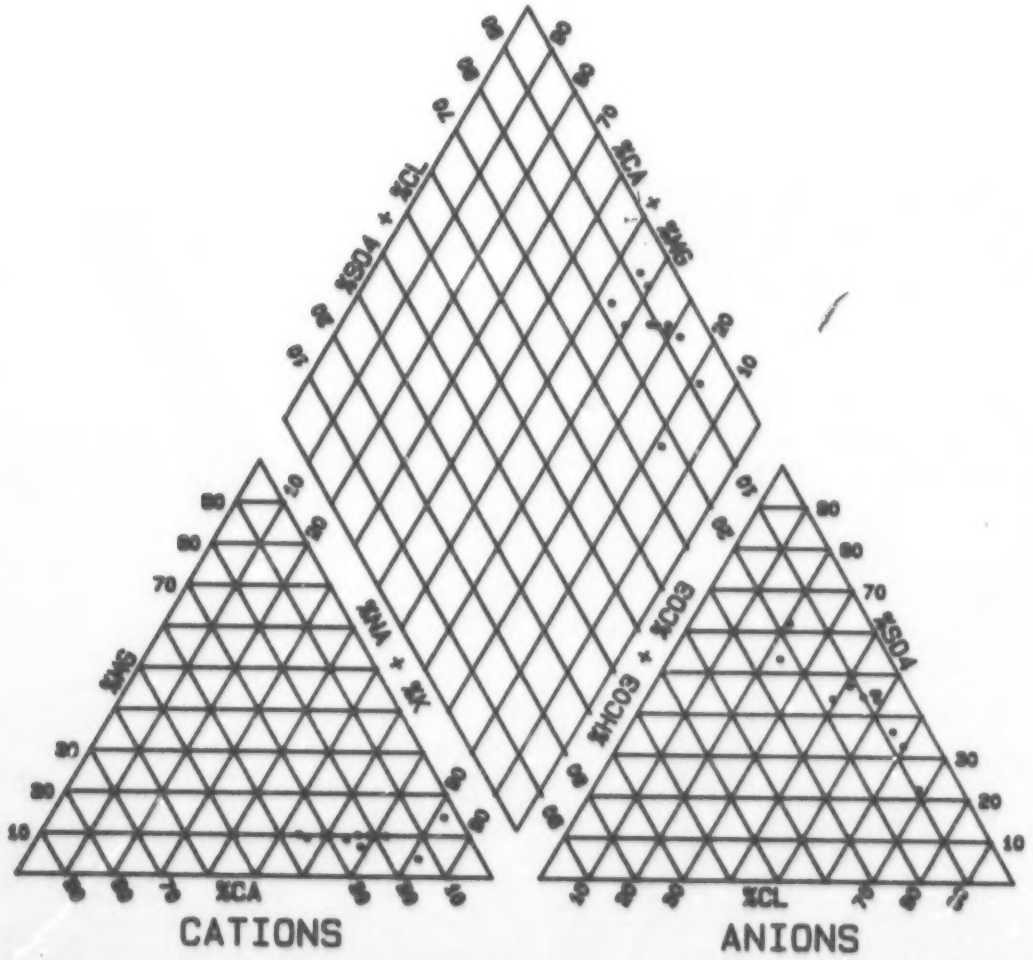





84-452

FIGURE 20

MAJOR ION CHEMISTRY
DOMTAR-G.W
TYPE - WATER
LOCATION SUMP
DOMTAR QUARRY PIPER DIAGRAM



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